SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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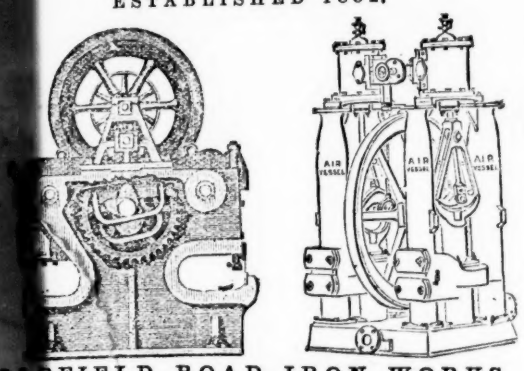

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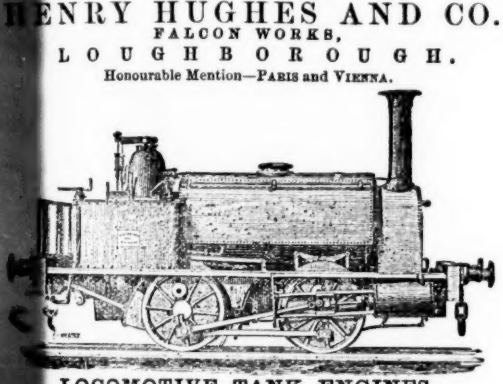

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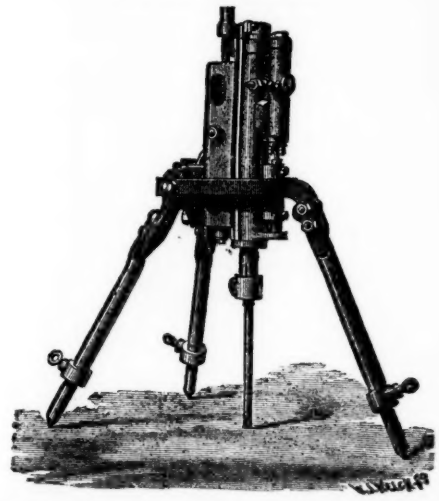

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"The simplest and best boring machine."—Capt. WASLEY'S letter to the *Mining Journal*, Oct. 18, 1873.

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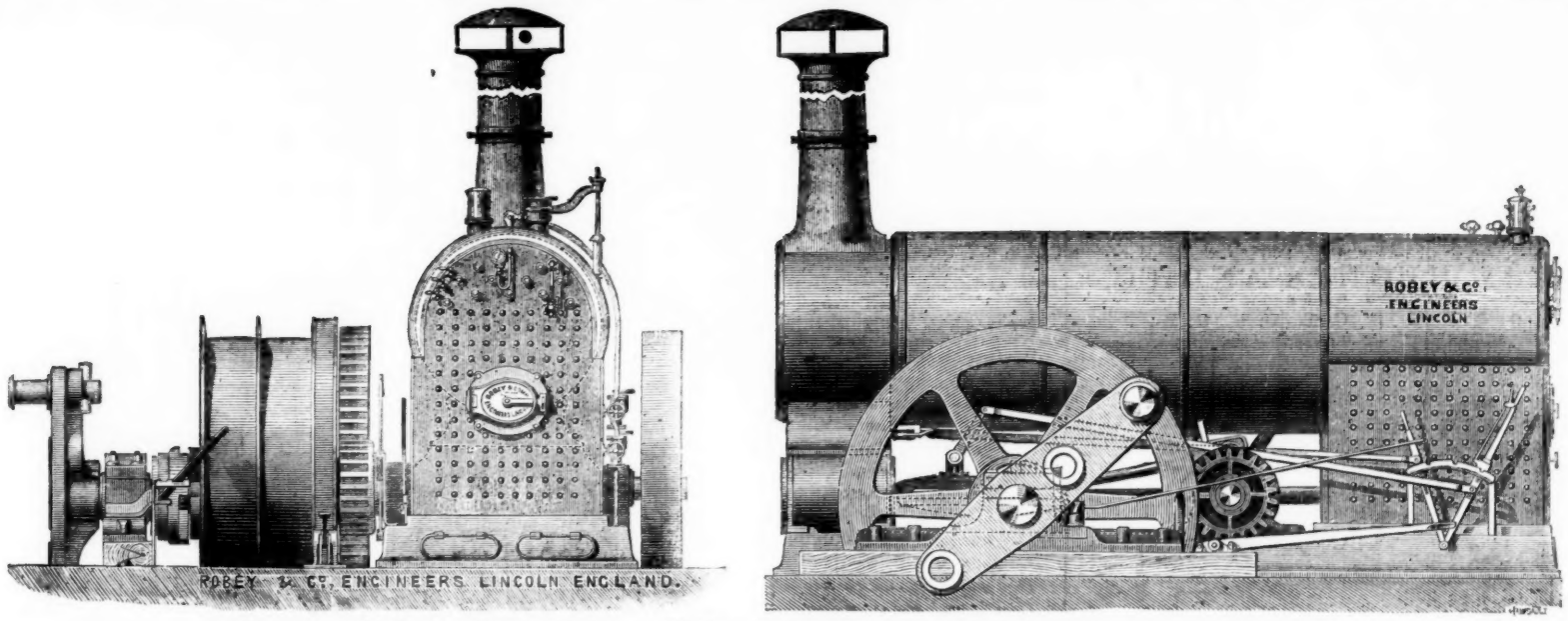

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Original Correspondence.

DYNAMITE, AND THE RAILWAY COMPANIES.

SIR,—My attention has been directed to a letter in the Journal of Feb. 5, under the heading of "Carriage of Explosives," and signed "Fair," containing some curious statements concerning dynamite, to which, as a considerable consumer of that article, I should like briefly to refer. First, the writer says, "there seems to be a desire to write up dynamite, and force the railway companies to carry that which they deem dangerous." Now, as one who has had much experience of explosives, I hold there is no need to write up dynamite; it is up already, and no mere writing in the newspapers can affect its position much in the estimation of oonsumers, neither can any "Fair" correspondent affect its position much by any "fair" way of writing, or attempting to write it down. I have seen the recent letters in your Journal and others about dynamite, and gather from them that what the dynamite folks, makers, sellers, and consumers went is that their stuff shall not be kept from circulating under proper regulations by the only adequate mode of inland transit now in existence—*i.e.*, railways. What they complain of, and I think justly complain of, is that although the best practical authority in the kingdom has pronounced in favour of dynamite as safer to carry than powder—see Major Majendie's report to the Clearing House and Common's Committees—and the collected testings of five years constant use of it in this country, and much longer abroad, is also in its favour. Some of the English railways, guided mainly by the London and North-Western Railway, say they will not carry it, not because they have any what your correspondent "Fair" calls "good cause" for declining to carry it, but because, simply and admittedly, they do not want to carry it, and, therefore, do not want to be shown it is safe to carry—see examination of London and North-Western Railway manager, Kaye, before the Select Committee of the House of Commons, 1874, in confirmation hereof. It is this attitude of the railways that is awkward for the consumers of dynamite and other explosives, and that must be changed through the powers of the Explosive Act of 1875, or the Act will become unmanageable.

The Government fixes the condition under which dynamite is made, packed, and carried. It is made, packed, and carried in quantities safely, and by Government license railways should prove it unsafe, or carry it. A great deal of mining practice and transit experience has been accumulated about dynamite. I do not profess to know the 14 rules mentioned by "Fair," that some chemists say should apply to the use of nitroglycerine, but I do know dynamite, and from almost daily use of it for the last five years I can truthfully say it is not dangerous for any man conversant with mining explosives to carry, to store, or to use. I have tried it under all sorts of conditions, and it has never failed me. Hundreds of others hereabouts say the same. If, then, dynamite be what "Fair" wants to make it, would it do this? Again, he mentions accidents from handling dynamite, and associates them with railway carriage of it. Now accidents happen with all explosives more or less, but quite as few in my experience with dynamite as with any other. As stated above, Government insists on all explosives being packed in the safest possible way before they will allow them to be carried or used, and only those that are held to be safe explosives can be licensed at all, so that handling in the sense of "Fair's" observations should not be associated with carriage. But take the handling of dynamite, the accidents therefrom apart from transit—for in transit there have been none—so far as I can make out have not exceeded those from other explosives. To write about the railways having "good cause" for declining to carry dynamite when their chief representative says otherwise in his recorded evidence is not my idea of what is, 'fair." Explosives necessary to mining must be had. The Government has passed an Act to regulate and make them as safe as explosives can be made, and if the railways refuse what is needed under the proper traffic regulations to carry out the obvious intention of the Act of Parliament, the result may be highly prejudicial to their interests, the public safety, and the livelihood of a great number of individuals like myself. A PRACTICAL MINER.

Frizington, Cumberland, Feb. 16.

P.S.—Persons not conversant with mining may safely carry and store dynamite; indeed, this is done every day.

THE VENTILATION OF COAL MINES.

SIR,—I quite agree with your correspondent, Mr. Burns, that the more this important subject is discussed through the Journal the better for all parties concerned. I thank him, too, for his observations upon my last letter in the Journal. If I remember rightly Mr. Taylor, when discussing his plans, said he had never known of a pit being filled to compression; still, my assertion as to what was done at the Montague Main Colliery, in 1862, is merely a repetition of facts which were detailed at the time in consecutive numbers of your widely-spread Journal, and discussed at intervals for months. Such facts having led to no results of a favourable kind, I have reason to fear my present efforts may also be soon forgotten, especially as I find but one of the many thousands interested have yet been aroused from their apathy, although the lives of 400,000 of our fellow-creatures are daily and hourly jeopardised by present practices. If they cannot deny the data on which I found my arguments, and choose to remain silent upon all suggested plans to remedy the evil, it savours strongly of ingratitude towards non-professionals like myself, who have no personal interest to serve nor mere whims to gratify.

Such extraordinary indifference had prompted me to cease my gratuitous services, so far as this country is concerned, and try my efforts abroad. In this case it is probable that the prognostications of a leading London journal may be nearly verified—that the recent disaster at the "Jabin Pit" may arouse French genius, and hence furnish this nation with an example to follow. From local terror occasioned by the havoc of human life in this dreadful colliery, it seems to have attained the ugly name of "Assassin," and I believe we have one in North or South Shields called the "Butcher's Shop;" at all events, the frightful frequency of such disasters in the United Kingdom will soon necessitate administrative interference, unless the owners and managers will listen to reason, investigate suggestions, and generally to treat the promoters of remedial means with a better grace than they have hitherto done.

Adverting to the suggestion of Mr. David Burns to have two shafts, with both a forcing and exhaustive contrivance, so as to secure compression in one-half the pit while the escape of gas should be encouraged in the other half by exhaustion, may be very desirable and perhaps feasible, but this would materially add to cost.

I still say abandon the "furnace" as a first step to save a vast expenditure. The circular fan is the cheapest means of propulsion, it is fully capable of filling any pit to a suitable degree of compression, as I have already proved; it is equally capable of maintaining a passing current to any extent, the exit of which may be regulated to the precise ratio as the supply. If this be so there can be no need of two distinct shafts whether the pit be subdivided or not.

I further humbly submit that the casing of the common fan may be so constructed as to operate both ways, either for propulsion or exhaustion, without other and more expensive machinery. If I am right in this, there surely might be some relaxation of toil—say, one hour per day or night for its reverse action to cleanse the pit.

Now, Sir, as regards the doubt of the means I propose to effectually and entirely resist gas pressure, I have recently read in your pages of a proposition to tap the under seam. I have seen this done, and a ring of gas jets burning around the foot of the downcast shaft, where there was plenty of air to prevent danger. We all know that it is consumed without fear in private dwellings, and, therefore, at the risk of ridicule, I believe the time is not far distant when we shall learn from *abroad* that the miners' dreaded enemy—carburetted hydrogen—has been utilised within the pit to light him to his labour in perfect safety, and that in a better and more powerful atmosphere than many now enjoy in the workshops of England. Whether this be done from the under seam, or side walls in main drifts, it must in either case lessen the tendency to escape, and if once the effect of compression to 16 lbs. per inch is successfully established I verily believe that in favourable places commencing at the downcast shaft short tubes with taps may be inserted and all escape consumed. It might be even better to bore near the top and destroy near the bottom of the standard coal. It is, of course, premature to discuss this part of the subject before my first proposition is entertained, so I merely throw out this hint to lessen lingering doubts which can never be removed by argument alone.—*Southtown, Yarmouth, Feb.* 16. C. COLWELL.

EXPLOSIVES, AND MERCHANDISE.

SIR,—The able article in last Saturday's *Mining Journal*, on the Explosives of the Future, has been read with considerable interest. If the statements *re* cottonpowder therein contained are facts, and cartridges of a density of 1·50 to 2 can be relied upon, it will doubtless find favour with mine agents and miners.

I regret much that nothing is said about the price; if it should remain at the price now asked—2s. per lb.—the manfacturers may rely upon it its extensive use and consequent profit on a large scale will not be realised. Consumers are bent on having an explosive at a fair and reasonable price. Necessity has created this demand, which is strongly felt. Demand, economists tell us, ensures supply. We may, therefore, rely that the day of monopoly will not last long.

Economy is a stern necessity in the management of all mines. To buy in the cheapest market the best article is a sacred duty owing to our adventurers. I see P.Y.C. tallow quoted in the daily papers of the London markets at 45s. to 46s. per cwt.; town-made tallow at 45s. 6d. The price here in Redruth to the mines is 56s. per cwt., or a profit of 20 per cent. on the best article. What it is when mixed with what is called melted stuff, such as we see occasionally at 30s. to 32s. per cwt., is only known to the sellers. Tallow, I hear, is being sent from Tavistock (warranted P.Y.C.), and delivered at Camborne Station at 51s. 6d.; candles at about 5s. 6d. per dozen from the same source. Whose duty is it to buy supplies, and whose duty to see that the prices are fair and reasonable?

Redruth, Feb. 15. MINE AGENT.

ROSWAY'S PROCESS FOR TREATING METALLIC SUBSTANCES.

SIR,—This process, as described by Mr. F. Maxwell Lyte in the Journal of last week, has two rather important failings. In the first place. the same thing has been done dozens of times during the last 20 years, and been patented by Spence, and described by Percy in his "Metallurgy;" and in the second place, like most of the so-called new processes, no account is made of the cost of ore. It appears the total expense of treating 4 tons of ore is 521 frs., the produce 618 frs., leaving 96 frs. 40 c. for profit and cost of ore. If this latter is only charged at 2*l.* per ton—about the cost of Anglesea mineral—the 4 tons would amount to about 190 frs., so that a very considerable loss—say, 100 frs.—would be the result of the operation. As most metallurgical processes are carried on with a view of making a profit, it is quite obvious that the adoption of this one would create quite a revolution, and this accords with the experience of those who have tried it, as well as of BLACK JACK.

CAPE COPPER MINING COMPANY.

SIR,—On Jan. 2 was opened the completed line of railway from Port Nolloth, the shipping port, to Ookiep, the centre of mining operations. This line has been more than four years in progress, and is 93 miles in length, presenting some very important engineering difficulties, and it is highly creditable to the energy and economy of the directors of the Cape Copper Mining Company and its officials that this important work has been constructed without either making a call on the shareholders or the creation of debentures, but entirely by means of the saving in the difference of carriage of the ores on bullock wagons and by means of the rail. As the work is now completed, in full working order, and out of debt, the shareholders may soon expect to receive the reward of their enterprise in increased dividends now that the expenditure on the railway works will soon cease. The road is well and substantially constructed, and the carriages and other plant in excellent working order, and in addition to its mining transport it will probably be able in addition to earn a handsome dividend for ordinary colonial traffic between the port and the interior of Namaqualand. H.

CANADIAN MINERALS—PLUMBAGO.

SIR,—I was much gratified to learn from last week's Journal that the widely-celebrated Borrowdale Mines are again about to send plumbago into the market, for since the opinion has prevailed that the wonderful Cumberland deposit was exhausted by far too much preference has been given to the mineral from Count Alibert's mines in Siberia, probably because the pencils manufactured therefrom by Mr. Faber, of Germany, are of such excellent quality that the trade finds a ready sale for them at remunerative prices. Now, by establishing something like competition in the plumbago trade benefit will accrue to all, and just as the introduction of the Siberian lead has enabled Stanley and other dealers to sell for 2s. 6d. per dozen pencils of a quality equal in every respect to those which made from Cumberland lead the artists' colourmen used to charge 6d. each for, so the introduction of Canadian plumbago will enable the profession to obtain for 1s. 6d. per dozen pencils made of a mineral absolutely identical in character and quality with the finest which the Borrowdale district ever produced. The large price which the Cumberland lead formerly commanded was due not to anything remarkable in its character or composition, but to the facts of its being the only plumbago of really good pencil quality in the market (for Count Alibert's mines were not then discovered), and that the monopoly was in strong hands.

The curious ceremonial connected with the raising of the plumbago, and protectionist notion of working the mines but once in seven years, had the effect of limiting the supply, and enabling the holders to keep up the price; yet those who were in the habit of attending the periodical sales in the public-house parlour in Essex-street, Strand, will bear me out in saying that in many instances ridiculous discounts were allowed to purchasers in order to make it appear that the price was maintained, so that whilst the price was nominally 12*s.* to 15*s.* per lb., as the case might be, the allowance of a surreptitious discount of 25 or 40 per cent. really reduced the price to certain favoured purchasers to 8s. or 10s. per lb. It was the unfairness with which the London plumbago trade was carried on that eventually drove the consumers to seek for a new source of supply, and it is not improbable that but for the alleged high value of the Cumberland mineral the energy displayed in opening out Count Alibert's mines as soon as the discovery was made would have been much less. With regard to what I will call crucible quality of plumbago, there has always been an ample supply, and prices have been comparatively low; and even pencil qualities are now obtainable, if large quantities are taken, at a few shillings per pound.

In all plumbago deposits the quality of the mineral is subject to certain variations, so that whilst picked specimens of Borrowdale plumbago might be sold at the rate of 3*l.* to 4*l.* per pound, it was almost invariably the case that of every hundredweight broken in the mine 110 lbs. would gladly have been sold for 5s. or 6s. per pound. It is the same in the deposits at the Siberian mines—a few tons per year are raised of a quality similar in every respect to the purest Borrowdale wad, upon which the reputation of the Cumberland pencil lead was gained, but the remainder is a little below that quality, but still of very high character. Now, the advantage I look forward to from renewed attention being directed to Borrowdale is that it will tend to open a larger market for the pencil lead of Buckingham, Canada, which is undistinguishable by the best judges, or by any test that can be applied to it, from the purest Borrowdale. As the deposit was but a few years since carefully examined by Mr. George Ilenwood, who submitted samples to experienced pencil makers in England, he will doubtless confirm this statement, whilst the crucible quality, which is just below the pencil quality, can be got in unlimited quantities, and already enjoys an extensive market in America. Mr. Waldo Dunn, one of the largest pencil manufacturers and plumbago refiners in America, states that the Buckingham pencil lead is unsurpassed by any in the world; yet it is obtained in such immense quantities that it can be sold at 2s. 6d. per pound, whilst the crucible quality is offered at 35*l.* to 50*l.* per ton, or about 4d. or 5d. per pound. It would doubtless be to the advantage of both producers and consumers if a few thousands more were expended on plant, and as soon as this is done I do not hesitate to say that the Buckingham plumbago will be almost the only quality used, whilst the price at which it can be offered as compared with either Ceylon, Siberian, or Borrowdale will cause it to enjoy that exclusive reputation which once belonged to Cumberland alone.

Feb. 15. CANADIENSIS.

SWEDISH IRON ORE.

SIR,—Referring to a letter in last week's Journal, signed "An Engineer," I beg leave to state that in the article on "Sweden as a Source of Iron Ore," in your preceding issue, no statements of facts were made which I have not verified by personal inspection and investigation, and which I am not prepared to substantiate.

THE WRITER OF THE ARTICLE.

SWEDISH IRON ORE.

SIR,—Under this heading the Journal of to-day contains a letter signed "An Engineer," in which, when alluding to the Central Swedish Iron and Steel Company, the writer remarks, "According to Mr. Forbes's report this company should have paid a dividend of about 30 per cent. per annum;" a statement altogether false, as may be seen by anyone who peruses the report in question. In justice to Mr. Forbes, and knowing something about this company, I would add that the absurdity of this statement is self-evident, when it is remembered that Mr. Forbes's report was made in 1871 for the Swedish owner of the property, long before the company was formed, and it does not even contain any allusion to the price of the property or formation of a company, but confines itself entirely to a description of the estates, and suggestions for their development on the basis of the prices of the raw materials and finished products then ruling. These suggestions were never carried out by the company, whose works were first completed in 1874, and any engineer not totally ignorant of the state of the iron trade must know that the enormous depression and fall in the prices of iron and steel, which occurred previous to that time, was neither foreseen or anticipated by even the wisest of the ironmasters of Great Britain, the Continent, or the United States. FAIR-PLAY.

London, Feb. 12.

MINING IN QUEENSLAND.

SIR,—The tin dispatched from the Warwick Railway Terminus during the month of November was as follows:—

	Tons	c.	qr.	lbs.
Stream tin	398	3	1	3
Ingot tin	20	5	2	5
Total	418	8	3	8

Equal to 271 tons of pure metal; being a reduction of 105½ tons of pure metal on the previous month, and 20 tons less than in the same month last year. I have to report that what between low prices and continued drought the production of tin at Stanthorpe has very considerably decreased during the past month and up to present date. The tin figuring above is chiefly stored tin that has been held for a rise in the market. It is asserted that there is still a very large quantity of tin so held on the several claims, and that it will not be all down till after Christmas, so that although the production is falling off the quantity sent forward this month and next may still be large. The total pure metal forwarded from Warwick for the eleven months ending Nov. 30, 1874, was equal to 3256 tons; and for the eleven months ending Nov. 30, 1875, equal to 2717 tons, showing a reduction on the eleven months of only 539 tons. What the figures at Murrurundi and Grafton may be it is hard to estimate, but it is evident that the great fall in price has not as yet so greatly affected supply, so far as Warwick is concerned, as estimated by some of your correspondents from time to time.

In other metals I have little to report, excepting that I see it is estimated that during the past eleven months Queensland has produced gold at the rate of a ton weight per month.

Brisbane, Dec. 13, 1875. RESIDENT.

IMPROVEMENT IN TAXATION.

SIR,—The writer of the article under the above title in the Journal of Feb. 5, after mixing some strange assertions with my plan of taxation, concludes with the words, "the University of Turin seems to have decided that it can do without him" (Mr. Crestadoro). Though the article is evidently jocular, yet, as it may cause a wrong impression on a point of personal character, I trust your sense of justice will allow me to state that my position under the University of Turin is open to me any time I might choose to resume it. I may also mention, as a matter of fact, that there is in my plan no such meaning as "librarians being specially entitled to exemption from taxation."—*Manchester, Feb.* 10. A. CRESTADORO.

LEAD MINING.

SIR,—To one interested in the progress and success of mining it is gratifying to witness the renewed interest which is being taken in its promotion. With the present year we seem to be launched upon a new era, a transit from dulness and gloom to one of radiant light and sunshine. That the success of lead mines in different parts of the country has had much to do with this will not, I think be disputed. Though a truism in itself, the maxim "that there is no success like success" has a pertinence of application commendable beyond its own intrinsic truthfulness, and this it must be which has so suddedly created for lead mines the interest, and commands for it the attention it is now so deservedly receiving. That this class of mines should have received so little attention in the past is unaccountable, seeing that they are quicker of return, and, as a consequence, require less capital in working, and when well selected are equally continuous in depth. The comparative indifference which has been shown to this department of mining could only have arisen from unacquaintance with its nature, and a prejudice derived from the abortive attempts of inexperienced operators.

Nothing is more natural than that men should try to justify their own failure in any pursuit, and when the game of mining is played by those individuals who do not know the line of demarcation between Nature's facts and symbols, and they fail utterly to rightly interpret the relation between one and the other, and in the innocence of their blindness pursue a wrong course and miss their object, it is perfectly easy to say that it had no continuous existence, and hence prejudice is engendered and kept alive by absolute ignorance. Almost the first piece of gratitious information I received on my arrival in Wales, on speaking to an English agent of the striking prospects which so generally abounded throughout this district for lead mining, was the unqualified assertion that it did not continue in depth. His precise words were, concerning the lead, "It don't hold down at all." I asked if he could give me any reason for such a conjecture, and his answer was "He did'nt know; but it didn't." I then enquired if anyone had been down to see, and he said "No." I then asked if his conclusion regarding the matter had been arrived at from geological peculiarities, and what there was in the adjacent rocks to support such an opinion, and his answer again was he did'nt know. I then said "I have looked at the surrounding rocks closely, and see nothing that can more than temporarily unfavourably affect the productiveness of the lodes, and until such can be found the presumption must be that they do hold down, and will continue to do so."

Such are some of the expressions of ignorance with which one is occasionally treated—I had almost said tortured—from the official *role* of mining. And who knows the extent of injury done through such instrumentalities. I distinctly remember, so long back as my early boyhood, hearing similar views expressed in Cornwall, and by persons whom I have reason to believe never saw a lead mine. But what has not Cornwall done since to dissipate such errors. Take a few instances, and notably amongst which Wheal Mary Ann, which continued profitably productive to a perpendicular depth of 300 fms. Then there is Trelawny, its near neighbour on the same lode, and also Treweatha, all worked to a great depth, the latter with its lodes still amply productive, but its working has been discontinued from an excess of water. Wheal Ludcott and Wrey Consols, on a parallel lode to the above in the same district, though not deep in the ordi-

nary acceptation of the term, will yet, I think, be found to be so, as they are destined to be worked again when prejudice concerning them shall expire and reason assume its sway. There is also Herodfoot, East Wheal Rose, and West Chiverton, and the Tamar Mines and South Hooe on the border of Cornwall in Devon. How favourably will not these compare with the tin and copper mines of the two counties. I have not the least doubt that of all the mines worked on these several classes of ores, and the amount of money expended thereon, the lead mines have yielded by far the largest returns proportionally. If we turn to Wales—comparatively neglected Wales—a similar testimony is afforded. In the northern division, for I know nothing personally of the South, although I dare say Cardiganshire is ready with its notes to compare favourably with any county, according to the number of its mines, in Great Britain, we have our Van, Talargoch, Minera, and a host of others which will bear favourable comparison with almost the best mines in the realm, besides a large number of juvenile aspirants which, when fully opened, will be no discredit to their ancestral lineage. If we revert to the North of England an equal or even stronger testimony in favour of lead mines is borne. The Manx Mines, also, are of the same type, and fraternity. Whence, then, the indifference which has been displayed towards lead mines, and the prejudice that has operated to keep them in the back ground so long. It surely cannot have proceeded as a deduction of reason from judiciously selected premises, but from the assumption of ignorance in its blindness of facts, or in its lack of understanding to define and classify them. But "facts are stubborn things," and cannot be disposed of by ignorant indifference or ingenious sophistry. The facts of Nature, when dealt with, are self-attesting, and their evidence, when pronounced, admits of no appeal. If lead mines have had to await the decadence of others for their share of attention and support the tide of events is now evidently in their favour, and it is to be hoped that every care will be taken to substantiate the claims of their intrinsic attractiveness by the successful results of their working.

Llanrwst, Feb. 15. ROBERT KNAPP.

"CIRCULAR MINING"—WOLVES IN SHEEP'S CLOTHING.

SIR,—Upon public grounds I exhort your powerful aid to arrest the growing evil of what has been not inaptly termed "circular mining." Firms are now called into existence at a moment's notice, ostensibly with offices in different parts of the City, but clearly inspired by one centre. Similar mushroom firms, with their several circulars, appeared a few years ago, introducing other "legitimate mines" to the favourable notice of the public. Those "legitimate mines" are now unknown and forgotten, except by those unlucky wights who were induced to "part" with their money.

Like ephemeral creations are once more being brought forward in galore, and equally questionable productions circulated throughout the country. As a sufferer by a similar entrapment, I feelingly appeal to you, Sir, for your powerful assistance to expose such mischievous doings, and to fearlessly unearth those connected therewith. Some may say the public deserve to be plucked if they will place blind confidence in names, as in most cases it is difficult to find the parties themselves, for their names vary with the month of the year. There are a sufficient number of respectable and long-established brokers in the City of London--why, then, do the public place confidence in the unknown?

The *Mining Journal* columns contain every item of information necessary to be known, and with this at command the public need no further "guide" nor "monitor."

You, Sir, as the representative of this great national interest, have always willingly opened your columns to the stamping out of any specious attempt to foist upon the public schemes under the name of mines, and as there is an organisation now so active its exposure and condemnation is urgently demanded at your hands. If you wish I will, with your permission, publish the names of the divers firms (?) to which reference is made.—*Feb.* 16. OBSERVER.

WHEAL GRENVILLE.

SIR,—Although I ignore, as a rule, anonymous correspondence, the more especially when personalities are resorted to, as being a most contemptible means of injuring one's person and property, I must refer to the letter in the Supplement to last week's Journal, signed "F. L. A. T. Rodda," on matters relative to this mine. Notwithstanding Camborne is given as the address of the writer, does he not hail from the regions of Cornhill? and is he not your correspondent "Argus"? or why does he not attach his real name and address? It is not my intention to reply in detail to the insinuations against one of our committee and the manager of the mine, as I have no desire to embroil myself in a newspaper war with anyone, who, not being a shareholder (at least, so he says), has so little to gain and nothing to lose by his continued reflections on our management. All I can say is that "one and all" here are doing their utmost to place the affairs of the company in a position not hitherto enjoyed; and considering that the mine has been in our charge but a short time, it is unmanly and unfair already to begin to criticise and abuse us. At least, give us fair play, and if time does not prove that we are competent to have the charge of the company's property, and carry on the working of the mine to the satisfaction of the shareholders, they have the remedy in their hands, and can obtain the services of someone, perhaps, more able, but I am sure not more desirous, of doing their duty to those who have placed the concern under our control. The mine has come into our hands encumbered with difficulties—the machinery at surface and underground is in a most deplorable state, and evidently from sheer neglect, entailing on the adventurers a cost that might and ought to have been avoided. Merchants' bills have been allowed to accrue to the extent of nearly 4000*l.*, and which, of course, the shareholders must pay. Surely the present management ought not to be credited with these evidences of past mismanagement. The price of tin is lower, and beyond our control, at the same time we see no reason to believe but what the returns will be maintained. At any rate, we shall do our best to keep them up, having due regard to the proper development of the mine.

I have recently spent some time in the neighbourhood of the mine, and have failed to learn that the change of management has been to the disadvantage of the shareholders locally or elsewhere; and with regard to the merchants, I can safely say that all with whom I have come in contact are well satisfied with the present arrangements of the committee with respect to the payment of their bills. With the exception of one or two of the creditors there has been a desire to meet our views, and discount at 2½ per cent. has been most willingly allowed us for payment of the past month's account. I should, perhaps, add that the old debts have been decreased by nearly 2000*l.* "Rodda" would do well to follow in our footsteps with the creditors of some other mines with which he is connected, and thus save them frequent and fruitless applications for remittances for supplies. We must be prepared to allow for the ill feeling likely to be displayed by discharged servants, and it would not surprise me to hear that "Rodda" is being well supplied with information by at least one of them. He is quite welcome to all he can learn, but let him be careful to confine himself to the truth, should he feel disposed to trouble you with a further show of his animus. That one of the committee has retired from the mine I admit, but that the mine or the shareholders are likely to suffer in consequence I am loth to believe. It is possible he may have had some bad advisers, and probable that "Rodda" may have had something to do with the purchase of his shares.

From beginning to end your correspondent's letter is written in a most vindictive spirit, and doubtless with the intention of damaging the committee, manager, and all concerned in the eyes of the shareholders, but let them not be deceived by such acrimonious effusions of a prejudiced mind. "Rodda's" advice to the shareholders—"to get rid of it"—is not very complimentary to many of his clients who have, doubtless, purchased shares at many pounds per share, and although his recommendation may have effect on one or two of the adventurers, perhaps they will also take a word of advice from me, and avoid in time any of the strong recommendations "Rodda" may have in store for them.

The shareholders have thought fit to place the affairs of the company in the hands of a committee of management, and they may rest assured that no efforts on their part will be wanting to place the mine in an efficient state of working, in the hope that they may ultimately succeed in making the property self-supporting, and a remunerative investment. One thing the shareholders may rely on, that every information will be afforded them that it is in our power to give, and our books will be open to their inspection at all reasonable times, so that they may be able to judge for themselves as to how their affairs are being conducted. T. B. LAWS, Secretary.

St. Andrew's House, Cornhill, Feb. 16.

WHEAL GRENVILLE.

SIR,—Will you permit me to assure "An Old Shareholder" that I know nothing whatever of F. L. A. T. Rodda. Nor do I admire his style or approve of throwing dirt after a battle is over.

ARGUS.

PARYS MOUNTAIN.

SIR,—It would be difficult to answer, *seriatim*, the four questions of "Investor." He is evidently unaware of the position of the property, which hitherto has been more in the nature of a quarry than that of an ordinary mine.

The great "open-cast," from which it is said the families of the Marquis of Anglesey and Lord Dinorben derived a *profit* of more than five millions sterling, is a huge quarry on the top of the so-called Parys Mountain, and is about ¾ mile long, several hundred yards wide, and 68 fms. deep. The ore got out of this hole was originally discovered within a few yards of the surface, and took a great number of years to work out. It is the opinion, I believe, of many people that this enormous deposit was the result of the junction of a vast number of lodes; at any rate, it is notorious that veins and branches, some of them of great riches, shoot out from it in all directions, and from these side veins more than 20,000*l.* a-year profit had been made for many years.

In the bottom of the open-cast, or quarry, the present company raise large quantities of native ochre at a good profit, but nothing has been done to prove whether at a greater depth rich copper would still be found. Indeed, to erect adequate machinery at the bottom of such a hole as I have described would seem impossible. A cross-cut, however, has been for some years in progress 90 fms. deep, to get under the quarry, and it is still some distance off; but it is close upon one of the rich Mona or side veins, which must soon be cut, and upon its character will mainly depend the answers to "Investor's" last questions. There is no water to trouble the company, and the general impression is that a *rich* lode will *soon* be met with.

In regard to the funds, I apprehend the mine at present is paying its way without this anticipated lode, and if this is met with shortly the future profits will be regulated by its productiveness. The company have five sources of income—precipitate, yellow ochre, native ochre, halvans, and copper ores. When the mine was flooding the market with rich copper ore all the poorer ores were thrown on one side as halvans, and amount to millions of tons. These pay to work when copper is high, and the company have machinery to produce 200 tons of copper ore per month. To further utilise these halvans, there are many acres of bricked and cemented pits, erected at great cost, into which scrap-iron is thrown, and the water from the mine and from the halvan heaps is made to flow over the iron, which it literally eats up, and forms copper precipitate. These pits are cleared out once a quarter, and produce about 600*l.* to 700*l.* worth of precipitate each time. From these pits the water then flows into others, and deposits yellow ochre, and of this substance about 1000 to 2000 tons are produced annually, worth 2*l.* per ton.

The returns of copper ores from the side lodes are considerable, as may be seen by the weekly reports; and even without the "speculation" of cutting a good lode in the 90 cross-cut the mine is a good one. I have visited it more than once, and if shareholders would do so more frequently they would, I think, agree with me that there are in it elements of great success, and that the present market price of shares does not represent one-third of their real value.

Hitherto, like in many limited companies fully paid up, there have been financial difficulties to contend against; at present the company have means of raising money if they require it, and in a way to give a bonus to existing holders. ARGUS.

OLD TREBURGETT.

SIR,—On the vexed question of the excessive royalty I think the best thing for the directors to do is to postpone the annual meeting, and in the meantime to use their best exertions to induce the lords to reduce the dues; and, if not successful, let the shareholders strengthen the hands of the board to reduce the workings of the mine. The shareholders have had nothing for a long time upon capital; make the lords feel the smart, and reduce their dues to a minimum. Stop the supplies is the only remedy, if that can be done.—*Feb.* 16. ANOTHER SHAREHOLDER.

NEW CONSOLS.

SIR,—The works, machinery, &c., in this remarkable mine, have from time to time been referred to by sundry correspondents in the Journal, but the works are still receiving additions which are necessary for treating a greater quantity of the produce, so as to insure dividends to the shareholders, who have acted nobly in providing capital requisite for the end in view—profit. Two additional calciners are now being added to the seven previously erected, and arsenic refining works are also being erected, so that all the gains which have hitherto gone into the pockets of the purchasers of the raw material ("soot") will go into the hands of the shareholders. I saw a letter, either in your Journal or in a country paper recently, in which the writer tried to prove that the company would lose or gain nothing by refining the article on the mine. The absurdity of such a statement must be obvious to everyone, for we cannot believe that the purchasers would work for nothing. It is believed that the manufacturers gain a handsome profit out of their refinery business. I have heard that the various erections now in progress will cost about 2000*l.* When these are completed it is said that regular dividends can be made for a term on the duration of which I cannot speculate.

The main lode in New Consols is the only one now being wrought, but the contents of that lode, which is several fathoms in width, will supply stuff to occupy the miners and metallurgists for, it is believed, generations to come. The sett is more than a mile in length, and the lode, wherever tested, has been found to yield the same kind of minerals—copper, tin, silver, and arsenical mundic. The carriage of materials to the mine is a very heavy item of expenditure, and as the East Cornwall Minerals Railway is only about a mile distant, it is proposed to construct a tramway for letting down the different articles (coal, salt, timber, &c.), and for taking up to the railway such things as require conveyance from the mine. The tramway can be worked without a stationary engine, or any mechanical power, except that of the gravitation of balance wagons. The line is not required to be double, except about 200 ft. in the centre for the trains to pass each other. The elevation of the East Cornwall Railway above the mine is about 500 ft., and the road down to the mine is, doubtless, the worst in the county. The charge for the carriage down the hill is 1s. 11d. per ton, and I am told that the total cost of carriage is more than 200*l.* per month, nearly the whole of which will be saved if the company construct the tramway proposed; but if a tramway company, formed for the purpose, take up the matter and construct the line, the New Consols Company will probably be charged 1s. per ton, and a very considerable profit would accrue to a tramway company at that price. The line would not be on one plane only, but would rest on the surface of the ground, which slightly undulates, but requires very little excavations. There is a declivity all the way down, but of varying gradients. I find that Mr. R. Symons, of Truro, who is now in this neighbourhood, has been instructed to prepare a plan and section of the line for some gentlemen who have offered to invest in so profitable a scheme in the event of the company not taking it up, and executing it on their own account.

Considering that the existence of New Consols as a working mine is chiefly due to Capt. R. Pryor, the local manager, who pressed through unexampled difficulties to keep it agoing, I think that the company should present him, out of the first dividend, with a very liberal pecuniary testimonial in recognition of services not paid for by the small salary which he is said to receive for his management and local pursership. The managing director, too, should be remembered.

Mr. Rashleigh, who built nearly every wall in the mine, told me there is more masonry in New Consols than in all Callington town.

Callington, Feb. 15. A MINER.

PENNERLEY MINE (LIMITED).

SIR,—As a shareholder in this adventure, may I request permission to insert a few remarks as to what I consider its future prospects? The mine is well spoken of by practical men, and why it should not stand at 2*l.* per share, as in the case of West Tankerville a little time will clearly demonstrate. The late fall of 10s. in the price of Pennerleys is unwarranted. It is partly attributed to the winding-up of the Bog Company, its neighbour, and to a temporary falling off in returns, which matter is fully explained in the last report. Now, with lead mines in such excellent favour, especially British, and taking into consideration the rich district in which Pennerley and Bog are situated, it is pretty certain that the Bog Mine will be reconstituted with fresh capital, and ultimately turn out a great success to the last proprietors. The closing of the Bog Mine could never seriously affect Pennerley. By the report from Capts. Harris and Delbridge, assurances are given that we may expect a bright future for Pennerley, and that the position of the mine will be established if the bottom levels improve. Touching the Tankerville Mine, at Potter's Pit End, it promises to rival its consort shortly; the winzes sunk at this point are going down in a regular course of rich ore, valued already at 45*l.* per fathom, and increasing in value and extent, and with the example of Tankerville for wealth in depth, no doubt can be entertained of good results there. I believe that in Tankerville the hot water in the low levels proved there were enormous deposits of lead; here in Pennerley we have precisely the same features—certainly, to be verified—and, to quote the captain's words, "From the excessive heat proceeding from the bottom, we have no doubt a valuable deposit of ore will be found at the junction of this lode and the Big Ore lode." These shares should have a very great rise, and very shortly; the winze sinking in Potter's Pit portion are increasing in value, and too much importance cannot be attached to the indications of the heat below, and to the locality of Pennerley. Several points in the other part of the mine are worth from 8*l.* to 9*l.* per fathom in addition. The balance in cash is 3000*l.* (now in hand), and every reasonable belief exists that in sinking the winzes the value per fathom will shortly double itself. INVESTOR.

DUCHY GREAT CONSOLS.

SIR,—As an original shareholder in this company, and solely induced to become such through the very promising and flattering reports of Capt. J. Richards, together with letters that this gentleman sent out on this subject in April and May 1874, in which he states "I cannot too highly recommend this investment," &c., may I now in the sixth year of its existence ask what has been done by way of the development of the mine? Previous to the last call of 10s. per share being made an occasional report appeared in the Journal, I suppose by way of encouraging the shareholders to pay up graciously, but I have remarked since all has been got on of us that we are entitled lawfully to pay, not one line is published about the mine. I hope to soon hear that something good is still in store for the unfortunate shareholders. ONE OF THEM.

EAST BROOKWOOD COPPER MINE, BUCKFASTLEIGH.

SIR,—By paying a premium we have obtained the right of Mr. J. Rowland to work his land for minerals; it is divided by a stream of water from Brookwood dividend-paying mine, and the main lode runs through the estate, where we have broken some good ore. The expectation of finding large deposits of mineral derived from the adjoining ground west, which has supplied Brook and Wheal Emma adventurers with above 200,000*l.* worth of copper, some of which in Brook Mine was sold as high as 22*l.* 2s. 6d. per ton at the time that Capt. S. Robins was agent. By an unforeseen circumstance, although held by one owner of land, the Earl of Macclesfield, the adventurers divided the setts now known as Brook and Emma, and although the above value of copper has been raised, above 110 fm. level in short piece of ground, by the misadventure either one way or the other, ideas of dividing a profit of 150,000*l.*, Emma adventurers are constantly paying calls. The copper found in the shallow levels was let on tribute at 2s. in 1*l.*, and the miners had good starts. The above mines by the division have been similarly West Basset and South Frances, many disputes have arisen respecting the mineral as well as to the diverting the water, in as much that steam has to be used. To object in stating the above is to show that it is a copper-producing district, and deserves being worked. Of course if minerals can be found near a railway, and labourers and miners close at hand, there must be grave mistakes made if it can not be made to pay large profits.—*Ashburton, Feb.* 17. GEORGE SPARL.

"THE WORLD'S RICHEST MINE."

SIXTEEN MILLION DOLLARS TAKEN OUT IN A YEAR.
OVER A MILLION IN DIVIDENDS MONTHLY.

Such is the "caption"—to use a Transatlantic word—which introduces to the stockholders of the Consolidated Virginia Mine an array of facts unexampled in the history of successful mining. All know the marvellous riches of the Comstock lode; but few, comparatively, are prepared to learn that in twelve months mineral has been extracted of the value of $16,000,0000, yielding in dividends $1,000,000 monthly. The fiscal year, however, just closed may be described as an eventful one, both in prosperity and misfortune: throughout there has been no cessation in the payment of the regular monthly dividends, and work at the mine has been steadily prosecuted in the way of exploration and extraction of ore. In October broke out the disastrous fire which destroyed so great a part of Virginia City, sweeping away the extensive hoisting-works and buildings, together with a vast amount of supplies of various kinds, and the 60-stamp Consolidated and California Mills, materially affecting the crushing facilities. This misfortune compelled the stoppage of nearly all underground work and ore extraction, necessitating the cessation of bullion shipments until the hoisting-works and buildings could be replaced. This has been done, and new works and buildings superior to those destroyed were erected in the short space of two months.

During the year 169,307 tons of ore was extracted, and 169,0[illegible] tons reduced, yielding $16,731,653 in bullion, and the value of that in the ore-houses and at the mills is estimated at $478,080. The ore has been taken from the 1200, 1300, 1400, and 1500 ft. levels; on the 1200 and 1300 ft. levels the ore bodies have not yet been developed as far as they extend north; on the 1400 ft. level the ore has been explored south 450 ft. from the shaft, and extends north from the shaft to the northern boundary of the mine. On the 1500 feet level the ore has been traced south for a distance of 480 ft. from the northern line, and has been thoroughly explored by cross-cuts from the east to the west wall. On this level all the ore is of high grade, and the width of the body varies from 150 to 320 feet. Laterally and at still greater depths the ore is found richer in quality.

To show how rapidly such heavy works are constructed in America, it may be mentioned that on Oct. 26 the fire destroyed all the extensive operations in the mine, yet on Dec. 13 hoisting was resumed, and since that period more than 600 tons of ore have been raised daily. This quantity exceeded the then milling capacity, but in 15 days that would be increased per day 200 tons. When fully completed there will be room and facilities for melting and assaying 5,000,000 of bullion per month; the hoisting capacity will be 2000 tons per day. The ore now in sight is sufficient to last for many years.

RICH GOLD MINE.—The Centennial Gold Mine, recently discovered near Laramie City, Wyoming Territory, is assuming vast importance and creating great excitement. Col. Downey, one of the discoverers, has shipped to Mr. Clark, superintendent of the Union Pacific Railroad, a gold brick 4 in. long, 1 in. thick, and 2 in. wide, worth $2100 in currency, bearing the stamp of the mint at Denver, where it was assayed. It was produced from ore which assayed $46,780·34 in gold, and $371·49 in silver to the ton. In his letter accompanying the brick Col. Downey says:—"The Centennial lode is apparently a central deposit, from which numerous lodes of less magnitude radiate. This lode was found more than a year ago, when a shaft was sunk some 30 ft. in quartz that assayed over $950 per ton, while some of the rock assayed $22,000, and no assay gave less than $600 in coin. The main lode or vein is a solid body of gold-bearing quartz, completely filling a crevice ranging in width from 5 to 8 ft." A 10-stamp quartz mill was procured and put in operation, the first return from which, on a run of 14 days, was highly satisfactory: 100 tons of ore, including all the rock between the walls of the lode, without assorting, was extracted and milled at a cost of $430, yielding 101 ozs. of metal, containing 93 gold and ·08 silver, worth $18·77 in coin per ounce. Total value of the yield of the ton of ore, including 13 per cent. premium on gold, $2142·22 in currency. Deducting total expense of run, $430 in currency, leaves $122·30 profit for each working day, and about 400 per cent. per annum on $10,000 capital invested.

STEAM GENERATORS.—The improved steam generator, invented by Mr. DAVID RENSHAW, of Cohasset, U.S., consists of a reverberatory furnace with a fire-grate and side flues containing pipes, on which are cast flanges for other pipes, into which the lower ends of diagonal or curved, lap welded, or other tubes are secured, the upper ends whereof are secured to vertical pipes, which communicate with a steam dome.

THROAT IRRITATION.—The throat and windpipe are especially liable to inflammation, causing soreness and dryness, tickling and irritation, producing cough, and affecting the voice. For these symptoms use glycerine in the form of jujubes. Glycerine, in these agreeable confections, being in proximity to the glands at the moment they are excited by the act of sucking, becomes actively healing: 6d. and 1s. boxes (by post 8 or 15 stamps), and tins, 1s. 6d., labelled "JAMES EPPS AND CO., Homœpathic Chemists, 48, Threadneedle-street, and 170, Piccadilly, London."

Meetings of Public Companies.

ENGLISH AND AUSTRALIAN COPPER COMPANY.

The annual meeting of shareholders was held at the London Tavern, on Thursday.—Mr. ROUTH in the chair.

Mr. CHARLES B. ROGERS (the secretary) read the notice convening the meeting. The report of the directors (which appeared in last week's Journal) was taken as read.

The CHAIRMAN said the gross quantity of ore, regulus, precipitate and rough copper received from various mines from July 1, 1874, to June 30, 1875, was 11,311 tons, against 12,665 tons in 1874. The quantity of ore, regulus, and precipitate smelted at the Port Adelaide Smelting Works from July 1, 1874, to June 30, 1875, was 7452 tons, against 6874 tons in 1874, and smelted at the Newcastle Smelting Works during same period 5244 tons. The quantity of copper made at the Port Adelaide Smelting Works from July 1, 1874, to June 30, 1875, was 1938 tons, against 2071 tons in 1874, and the quantity of copper made at the Newcastle Smelting Works during same period 730 tons. The profit and loss account for the year ending June 30, 1875, shows a balance at the credit of 13,847*l.*, to which has to be added 11,065*l.*, balance of profit on July 1, 1874, making together 24,913*l.* Out of this amount the 24th dividend of 2*s.* per share has been paid, with the usual addition of 10 per cent. to the reserve fund, leaving at the credit of profit and loss on July 1, 1875, the sum of 16,838*l.* In September, 1875, the 25th dividend of 2*s.* per share was paid, with 10 per cent. added to reserve fund, and the directors now recommend a dividend of 2*s.* per share, making 4*s.* per share for the year, with 10 per cent. added to reserve fund. The reserve fund, which amounted to 9896*l.* on July 1, 1874, was increased to 11,010*l.* 4*s.* on June 30, 1875, and now stands, with interest to close of the past year, at 11,944*l.*, secured by copper warrants. The result of the year's operations is very satisfactory, inasmuch as the quantity of ore turned over last year was 1387 tons less than during the previous year, whereas the profit had been larger by 3000*l.* That was a source of congratulation. But beyond that there had been written off from the wharf account 1000*l.*, and there had also been extra expenditure in connection with the furnace at Newcastle. Under that head there had been an outlay of 5000*l.*, which included the construction of two new furnaces. This fell very heavily against the present year's revenue, but there could be no question that it had put them into a much stronger position than ever before. As to the prospects of the current year, the first question that arose was as to the ore supplies. From all they could hear from their agents and could glean from other sources the quantity of ore likely to be received would, in all probability, not be less if it did not exceed that of the previous year. The New Caledonia Mines were opening up in a most satisfactory manner, from which they were receiving considerable quantities of ore, and the Burra Burra Mine was in depth giving the old sulphuret ores, which formerly yielded 16,000 tons per year; therefore he might say the supplies of ore for the current year would be at least as good as during the past. With regard to the coal supplies their stock at the works was 3500 tons, and contracts had been entered into which would give them an ample quantity for their consumption throughout the current year. Those were the two material items upon which they had to depend for their profits. With regard to the copper market, the past year had been one without great fluctuations, and he thought there was reason to hope it would remain steady during the present year. They always derived a greater profit for copper when the market was steady, although of course if there had been a rise of 5*l.* or 10*l.* per ton a much larger profit would have been realised. But it was very satisfactory to find that in a year like the past they had been enabled to pay two dividends of 2*s.* each, while the average price of copper sold had been 88*l.* 0*s.* 6*d.*; it was a curious fact that the price of copper in the market to-day was exactly 88*l.* With regard to the prospects of the copper market, it was impossible for him to predicate what would be its price, but if it should remain at its present low price he thought he might say they could see their way pretty clearly to realise a satisfactory profit during the present year. As he had said, they preferred a steady market, and that he thought they might reasonably look for. The Australian Government proposed to open out Northern Australia by a network of railroads, and to expend something like 4,000,000*l.* upon that object. If that was carried out it would open up to the company a very large country well known to be copper-bearing. There were 160 mines opened out which could not now be profitably worked because it was impossible to bring the ore to the smelting works except at a considerable cost. With such large mines as the Yudanamutana and others the question of the supply of ore would be one totally different to what it had ever been before. That, however, was in the future; but even if they left out the future their prospects were exceedingly encouraging. Their furnaces were in perfect repair, their staff efficient in every respect, their supplies of ore likely to be good, and their supplies of coal assured for the coming year. (Hear, hear.) He then moved that the report and accounts be received and adopted.

Mr. ALFRED COBBETT seconded the proposition.

A SHAREHOLDER asked what balance would be carried forward after the payment of the proposed dividend, what was the object of the wharf fund, and whether the accounts could not be brought up to a more recent date by deferring the day of meeting.

The CHAIRMAN replied that the balance carried forward would be 600*l.* or 700*l.*; upon the last occasion it was 3100*l.* The object in adding 1000*l.* to the reserve fund was really a payment set aside in reduction of the mortgage upon the wharf; they had now paid 2000*l.*, reducing the amount to 16,000*l.*; that item would be reduced by 1000*l.* per year until the mortgage had been paid off—that was the condition upon which the advance had been made. As to making up the accounts to a closer date, the question had been frequently discussed in that room. The great object the directors had in view was to make up the accounts to such a period as to show what had been actually realised; were they made up closer there would necessarily be a large amount estimated only. They had always thought it better for the shareholders that there should be as little estimated as possible, and they regulated the meeting so as to show the amount actually realised.

A SHAREHOLDER suggested that the reserve fund should not be further increased, but that the amount annually set aside for that purpose should be appropriated for the paying off the mortgage upon the wharf.

Mr. SPENCER HERAPATH said that could not be done, as the money had been advanced upon certain conditions, which were that the advance should be paid off at the rate of 1000*l.* per year.

The report and balance sheet was received and adopted unanimously.

The CHAIRMAN proposed that a dividend of 2*s.* per share (free of income tax) be declared payable on and after March.——Mr. SPENCER HERAPATH seconded the proposition, which was put and carried.

Messrs. Spencer Herapath and Alfred Cobbett (the retiring directors) were unanimously re-elected.

Mr. Viney was re-appointed auditor.

Upon the proposition of Mr. WRIGHT, seconded by Mr. SANGAR, a unanimous vote of thanks was passed to Mr. Cooke, the company's manager in Australia, for the satisfactory manner in which he continued to conduct the company's operations.

A vote of thanks to the Chairman and directors concluded the proceedings.

KIRK MICHAEL MINING COMPANY.

The annual meeting of shareholders was held at Ramsey, Isle of Man, on Monday,—Mr. ORLANDO WEBB in the chair.

The notice convening the meeting was read, and the statements of accounts submitted, showing a credit balance of 7*l.* 18*s.* 3*d.*, and a balance of liabilities over assets of 567*l.* 7*s.* 8*d.* One shareholder being less than the quorum of 20 being present, the meeting was declared to stand adjourned for a week, but a long discussion took place.

Mr. LA MOTHE suggested that the mine captain's absence had been influenced by Mr. Jackson, the managing director.——Mr. JACKSON said he did not tell either the captain, who had gone to dinner, or Mr. Kelly to stay away.

Mr. PRITCHARD called attention the suspicious circumstance of a great many shares being registered on the same day in May, 1874, and complained that the shares had been transferred to certain persons for certain objects, and not paid for.

Mr. CHRYSTAL thought the Chairman had colluded to prevent the quorum being present.——The CHAIRMAN could assure the meeting that he had done nothing to keep anyone away; on the contrary, he was as anxious as anyone that the business should be disposed of. He had spent much time and money on the mine, and had confidence in the mine, but this he had now lost, for they had spent all their money and got no returns, and he felt inclined after what had taken place to retire from the undertaking. He hoped they would find a way to wind-up the company, but there was much difficulty, owing to the existence of two opposite parties among the shareholders. He hoped that one party would buy the other out, but if that was not done he should certainly try to get the company wound up. He believed that in Kirk Michael they had a good property, and that it would prove a good mine; but he thought that they had spent so much money that they were not justified in going on in the way they were going, and that some other course must be adopted. He wished Mr. La Mothe's party to buy his (the Chairman's) party out.——Mr. LA MOTHE did not doubt that this was what the Chairman was trying to drive them to, but would remark that 1600*l.* remained to be called up, and should be called.

Mr. PRITCHARD added that there was also a large number of shares to be issued, and believed they could be very easily placed if the management were in different hands.——Mr. JACKSON undertook to give way, and the CHAIRMAN assured the meeting that after the directors met there should be a change.

Mr. LA MOTHE accepted this assurance, but he could not forget that it was known a week before that there would be no meeting.

Mr. PRITCHARD observed that if Mr. Tetley's proxies had been accepted at the meeting held two years since there would have been a change then. The proxies were rejected because unstamped, and as soon as the directors found that stamps were unnecessary in the Isle of Man they should have called another meeting, but they did not do so.

Mr. LA MOTHE expressed the hope that the executive would not withdraw their promise to give up the management, and that the meeting would really be held in a week.——The shareholders then separated.

SOUTH CONDURROW MINING COMPANY.

A general meeting of the shareholders was held at the offices, Austinfriars, on Wednesday,—Mr. MARSHALL in the chair.

Mr. HICKEY (the secretary) read the notice convening the meeting, and the minutes of the last were confirmed.

The accounts showed that during the sixteen weeks ending Dec. 20, there had been sold 152¼ tons of tin, realising 7241*l.*, leaving a profit of 1135*l.*, added to the balance brought forward made 4019*l.* From this had to be deducted the 5*s.* per share dividend declared at the last meeting, which left an undivided balance of 2488*l.* The cost-sheet, due on Saturday, amounted to 1688*l.*; after providing for that there would still be a credit balance of 869*l.*

The report was read as follows:—

Feb 15.—We have sunk a trial shaft in the new ground to the west, and have put out cross-cuts to the north and south and intersected Wheal Grenville tin lode, besides two other tin lodes; the former especially has a very promising appearance, and carries tin. We shall now urge on the sinking, and hope as soon as the lode is cut under the capping of slate and into the granite it will open out profitably productive. Williams's lode, in the adit east of engine shaft, carries a little tin, and looks likely to improve. We have intersected the tin lode in the 50 cross-cut north, and have driven on it east a few fathoms. The lode in end is worth 6*l.* per fathom, and looks likely to improve. We have just began to drive the 50 west on the tin lode, but being still within the influence of the cross-course it is not yet of value. In the 50, east of Fraser's shaft, we are putting up a rise towards a new shaft, which will intersect Frazer's lode, and hope to discover profitable tin ground. We have cleared and secured the 60 west on the West Basset lode. This has been done with a view to sink a winze to ventilate the 70, and to prove the lode between these levels. The great tin lode has a rapid underlie south. The West Basset lode is nearly perpendicular, consequently it bissets or cuts through the great lode about the 60, and shifts it. We have, therefore, recently put out a cross-cut to the 60 and intersected the great lode, which is not yet cut through, but so far as seen it yields good stones of tin, and is likely to open out well. We look upon this as an important point in the mine, as the lode is standing whole to surface. The 70 end, east of King's, is worth 7*l.* per fathom. The 70 west is worth 8*l.* per fathom, and very promising.

The 80 west is worth 10*l.* per fathom. The 80 east is worth 12*l.* per fathom; we expect to intersect the cross-course in the back shortly., when we shall begin to sink a winze in the bottom for ventilation. The 93 end east is worth 10*l.* per fm. The 93 west is worth 10*l.* per fathom. The rise in the back of the 93 is worth 10*l.* per fathom. We have sold during the past 16 weeks 152¼ tons of tin, but regret that the price is so low—about 10*l.* per ton lower than in the early part of last year. We are, however, still hopeful that the price will yet improve, and are, therefore, keeping on a great deal of exploratory work underground. We are driving 11 ends on tutwork, besides rising in the back of the 50 towards the new shaft, and sinking the boundary shaft in the new ground west. We have put in a good weighbridge at the surface, and made new sample-house, and improved the spalling-floors. The mine, on the whole, is in good working condition, and if we could obtain a better price for tin it would enable us to give handsome profits.—WILLIAM RICH, HENRY ABRAHAM.

The CHAIRMAN said the report spoke for itself. He thought the shareholders would agree with him that the reports showed the works were progressing in a satisfactory manner. Like all other tin mines, South Condurrow had suffered from the low price of the metal, but notwithstanding that the operations of the 16 weeks embraced in the accounts showed a profit of 1135*l.* The price of tin had averaged during that period not more than 47*l.* 10*s.* per ton, whereas the average during the 16 weeks immediately preceding had been 50*l.* per ton. That accounted for the difference in the profit upon the two periods. In the last 16 weeks there had been sold 3 tons of tin more than in the previous 16 weeks, which arose from some good finds the tributers had last month, 17 men having raised 10 tons 2 cwts., at a cost of 209*l.*, giving each man 12*l.* 6*s.* net, and the average was 10*s.* 10*d.* in 1*l.* He hoped that the men would be equally successful in the future. The alteration in the accounts was a point to which he desired to call special attention. The cost-sheet was payable three days after the general meeting; it had not previously appeared in the accounts, but at his desire was now shown; deducting the cost-sheet payable on Saturday there would be a balance of 869*l.*, clear of all liabilities. Out of that balance the committee recommended a dividend of 2*s.* 6*d.* per share, absorbing 765*l.*, leaving a clear net balance in hand of a rather larger amount than ever before—hence the financial position of the company was in a much sounder and satisfactory condition than at any previous time. As he had said, the profit upon the 16 weeks had been 1135*l.*, so that they would not be dividing anything like the profit earned. But upon other ground it was not desirable to declare a larger dividend, as no one could say how much further tin might decline. He proposed that the report and accounts be received and adopted.

Mr. C. WALTON seconded the proposition, which was put and carried.

The CHAIRMAN proposed that a dividend be declared of 2*s.* 6*d.* per share, payable forthwith.

Mr. WALTON said that by providing for the cost-sheet not payable till Saturday they would be discharging liabilities not properly chargeable against the returns of the current 16 weeks.

The CHAIRMAN said if a dividend of 5*s.* per share was now declared they would be paying more than had been earned.

Mr. WALTON said the price of tin depended much upon the general business of the country; the manufacture of tin plates depended upon it, and if that improved they might naturally expect a change in the price of tin and an increase in profits.

The CHAIRMAN said there had in reality been a larger profit than the dividend would absorb, and with the undivided balance they were able to pay something on account of the next quarter.

Mr. LEACH said that tin was certainly very low in price, but in all probability there would be an advance in the next four months. By continuing the former system they would be able now to pay a 5*s.* dividend, and still have as good a balance to carry forward.

The CHAIRMAN said the committee had carefully considered the question, and he (as Chairman) could not recommend them to divide a larger sum than had been earned.——Mr. LEACH did not see why the usual custom should be altered.

The CHAIRMAN said it had always been his wish to do that which he now recommended. The committee had always been aware a cost sheet was due three days after the general meeting—in fact, at the last meeting he directed especial attention to the fact, so that all shareholders might be made aware of it. Upon the present occasion the committee considered it their duty to the shareholders to insert the item in the accounts by which all shareholders would know as much as the committee.

Mr. WALTON said that no other mine adopted such a plan, which was really paying part of the next four months costs. Yesterday at the Dolcoath meeting a dividend of 10*s.* per share was paid, and the condition of Dolcoath was not worse than South Condurrow.

The CHAIRMAN: Probably not so good. They had a very good prospect of going on well, and a large amount of exploratory work was being done, but if a dividend should be declared of a larger amount than had been earned, perhaps the next intimation from the committee would be that a call was necessary. With this 2*s.* 6*d.* per share the dividends paid in the year were at the rate of 10 per cent., which would, upon a 10-years' purchase, make the shares worth 6*l.* 16*s.* per share, so that the shares were quoted at much below their value. He was exceedingly sorry to over-ride the wishings of any shareholder, but he felt so strongly upon the point that rather than concede it he would resign his position.

Mr. LEACH then seconded the proposition from the chair, and that a dividend of 2*s.* 6*d.* per share should be declared, which was put and carried. The committee of management were re-elected.

A vote of thanks was passed to the Chairman and committee.

The CHAIRMAN appropriately acknowledged the vote, and expressed a hope that when they next met the shareholders they would be in a position to recommend rather a larger dividend.—The meeting then separated.

BOTALLACK MINING COMPANY.

At the quarterly meeting of shareholders, held at the mine, on Wednesday (Mr. JAMES, purser, in the chair), the accounts for the three months ending December last showed—Wages, 4003*l.* 13*s.* 7*d.*; coals (759 tons), timber, &c., 1068*l.* 12*s.*; merchants' bills, rents, &c., 529*l.* 15*s.* 3*d.*; total cost, 5602; add tin ores credited unsold at last account, 900*l.*=6502*l.* Copper ores sold (less dues), 1155*l.* 5*s.* 3*d.*; tin ores, 958*l.* 15*s.* 10*d.*; arsenic, 32*l.* 17*s.* 9*d.*; sundries, 92*l.* 17*s.* 5*d.*; tin ores unsold (ready for sale), 80 tons, 3680*l.*=5919*l.* 16*s.* 3*d.*—deducted from the costs leaves a deficit on the quarter's working of 582*l.* 4*s.* 7*d.*, add to this the debit balance brought from the last account of 613*l.* 3*s.*, shows a balance now due from the adventurers of 1195*l.* 7*s.* 7*d.*, which was carried forward to debit of next account.

The agents' report stated that at Wheal Loor the 180 and 150 east are now driving, and producing tin; here they are daily expecting to meet with the rich run of tin ground gone down in the 130. The 130 east continues to open good paying ground. On the Corpus Christi lode the 130 south is opening productive ground. At Wheal Hazard the 100 south is yielding profitable ground for copper. In this part of the mine are now employed 27 men and boys opening ground, and 51 men and boys stoping on tutwork and tribute. At Wheal Cock the skip-shaft is sinking under the 135. The 112 south is opening paying copper ground. The 100, east and west, is opening tin and copper ground that will work at a profit. The 70 east is productive for tin and arsenic; here are 39 men and boys employed opening ground, and 95 men and boys stoping on tutwork and tribute. At Carnyorth the 100 west and the 64, on the Nogger lode, are productive. The 30 west is opening some very promising ground; here are 36 men and boys opening ground, and 51 men and boys stoping on tutwork and tribute. Ground opened in three months in shafts, winzes, and levels, 218 fathoms. The agents stated at the meeting that even at present rates for tin they expect to raise sufficient tin, copper, &c., during the ensuing three months to meet the costs of working. They also stated that during the present low rates for tin ores they will suspend some of the unproductive portions of Carnyorth, and employ the men on other parts of the mine, which now hold out excellent prospects of success, especially at Wheal Cook and Higher Mine.

After the accounts were audited and passed, the shareholders dined together. When the usual loyal toasts were disposed of, Mr. E. H. RODD proposed the health of the purser, Mr. James, and referred specially to the zeal and energy he had always displayed in promoting the interests of the adventurers. Mr. Rodd also made some very interesting observations on the present position of mining, and how very unsatisfactory the state of the tin market had been for some time, and how discouraging it had been for those engaged in tin mining.——Mr. JAMES, in reply, thanked Mr. Rodd and the shareholders for their kind expressions of confidence towards him, and said, in reference to this quarter's account, the lower rates for tin since the last meeting had exerted a considerable adverse influence on their credits this day, and it had been thought advisable by him and the committee not to sell their returns of tin (of which they had now about 80 tons) at present low rates, as they felt very sanguine they should soon obtain increased value for it. They had during the past quarter expended considerable sums of money in opening up new ground for discoveries in both Wheal Cook and at the Higher mine, from which they might soon anticipate increased benefits. He would particularly allude to a very important portion of their operations—the three levels going east on Wheal Loor lode into Truthall, the 130, 150, and 180. Here was a splendid field for opening up new tin ground; in fact, he considered their prospects in this part of the mine particularly encouraging.

Captain BENNETTS, on behalf of the underground agents, alluded to how materially the drop in tin the past three months had affected them in their credits this day; still, he was sanguine that for the ensuing quarter they would return sufficient ores to meet their costs, even at the present prices existing for tin. During the past two years their copper ore returns had greatly assisted them, and they were now looking forward to additional returns also from arsenic, as their new calcining flues were now at work. He had great hopes of the Wheal Cock part of the mine becoming still more productive than it had been. In reference to the Carnyorth part of their sett, they could easily now suspend for awhile (during the low price of tin) the unprofitable portions of it, and employ the men at Wheal Cook and the Higher mine to a much better advantage for the adventurers. There was now a very large run of Carnyorth which would pay well at 55*l.* per ton, but it would work at a loss at 43*l.* per ton.——Mr. H. YORK enquired whether the water charges at Botallack were now entailing much cost to the adventurers or not?——The PURSER, in reply, stated that compared with other extensive mines, they were now (especially regarding the winter season) remarkably easy and moderate; for instance, at the Higher mine, which is 200 fms. deep, the pumping-engine only consumes about 12 cwts. coals in 24 hours; whilst at the Wheal Cook part, which is 150 fms. deep, and runs nearly one-third of a mile out under the sea, the consumption of coal is not more than about 6 or 7 cwts. during each 24 hours.

DOLCOATH MINING COMPANY.

The three-monthly meeting of adventurers was held at the mine, on Monday, the Rev. W. BUTLIN presiding. The accounts showed that the tutwork and surface labour cost and wages for November amounted to 2097*l.* 3*s.* 2*d.*, for December 2147*l.* 17*s.* 3*d.*, and for January 2007*l.* 17*s.* 10*d.* The tribute costs were 1483*l.* 10*s.* 1*d.*; merchants' bills, &c., 3507*l.* 2*s.* 4*l.*; January dues 33*l.* 6*s.* 1*d.*; parish rates, 100*l.*; total, 11,376*l.* 16*s.* 9*d.* The receipts were for copper ore, 97*l.* 2*s.* 6*d.*; for 291 tons of black tin, 13,943*l.* 4*s.* 10*d.*; for arsenic, 162*l.* 18*s.* 6*d.*; extra carriage of tin, 10*l.* 6*s.* 5*d.* Deducting from these sums 710*l.* 3*s.* 3*l.* for dues, the net receipts on the three months' working were 13,503*l.* 9*s.*, leaving a profit of 2126*l.* 12*s.* 3*d.* The agents' report said:—

The engine-shaft under the 326 fathom level is worth, for 12 ft. long, 80*l.* per fathom; more lode is standing both north and south of the shaft. The 326 fm. level, east of engine-shaft, is worth 60*l.* per fathom. The 326 fm. level, west of engine-shaft, is worth 60*l.* per fathom. This end is holed to the winze under the 314, and the ground set to stope. The 314, east of New East, is worth 30*l.* per fm. The 314, west of engine-shaft, has reached old sump-shaft, against which we have lately been rising, and shall effect a communication in the course of next week. The lode in the end is worth 30*l.* per fathom. The 302, east of New East, is producing a little tin. We have commenced to sink a winze under the 290, 12 fms. before this end, where the lode is worth, for 9 ft. long, 20*l.* per fathom. The 302, west of old sump, is worth 20*l.* per fathom. The 290, west of old sump, is worth 15*l.* per fathom. We have intersected the lode in the 264, south of Harriett's shaft, and are now driving west on it at that level; the lode contains a little tin. About 12 fms. before this end we have commenced to sink a winze under the 248, where the lode is worth, for 9 ft. long, 20*l.* per fathom. The 248, west of Harriett's, is producing a little tin. We have commenced to sink a winze under the 236 about 10 fms. before this end, where the lode is worth, for 9 ft. long, 45*l.* per fathom. We, therefore, expect an improvement in the 248 shortly. The 238, east of Stray Park, is holed to the winze under the 215, and the ground set on tribute. The lode in the end is worth 10*l.* per fathom.

The accounts were passed, and a dividend of 10*s.* per share declared.

In answer to a question from Mr. Rule,

Capt. THOMAS stated that their last sales of tin had realised 47*l.* 5*s.* for common, and 49*l.* for superior. He went on to say that the present price of tin was nearly 4*l.* per ton less than it was when they last met, and it thus took off something like 1000*l.* from their credits. Three months ago they thought they had got to the bottom of the tin market, and most people expressed the hope that matters would soon improve, but when they thought they had got to the lowest depth a lower deep still opened up before them, and now he really did not know what to say with regard to the future of the tin market. Many opinions had been expressed, but none of them had been realised, and he thought one man's opinion was worth just as much as another's. All he would venture to say was, looking at the present large consumption of tin, that if the trade of the world generally revived he hoped the tin trade would revive also. Beyond that he did not believe it was of the slightest use to attempt to speculate. With regard to the report which had just been read to them, the various points there mentioned were valued upon the present price of tin, and the report showed that they were still continuing to open up a very good mine. The deep part of the mine was looking exceedingly well, and in the western part, west of Harriett's shaft, they had a great improvement, the winze under the 236 being worth 45*l.* per fathom and improving every fathom that they sunk—and before the next account they hoped that the 248 west would enter upon a very good lode. That lode was improving in appearance, and he had no reason to doubt, as far as he could judge from the western part, that they should eventually have as good a mine there as they had in the middle part. He was very anxious to see the valley portion of the mine explored more fully than it had hitherto been. In the upper levels there were formerly very rich courses opened; they drove the 196 and the 210 under that ground, but they were both poor; he thought, however, that the failure of the lode at those levels was merely temporary, and he should like to drive one of their deep levels under the valley, where he thought there was a prospect of meeting with a very great improvement. It was proposed to drive the 202, and this would be done by the aid of the boring machine. They hoped that the machine by-and-bye would be able to work considerably faster than hand labour, but at any rate it would ventilate the end and enable them to drive into their eastern boundary without additional expense. He was glad to tell them that during the last quarter they had put down the main-engine from the 212 to the 244, and when the new engine was obtained the men would be able to go up and down twice as fast as they could at the present moment. This would be one of the greatest improvements that had taken place in the mine for many years past. In concluding his remarks Capt. Thomas mentioned that in 1856, when tin was down to its present price Dolcoath could only give 35*l.* in dividends, principally arising from copper, but now they could divide over 2000*l.* a quarter, although the mine was much deeper.

Mr. RULE asked Capt. Thomas whether he had not recently imported a cargo of coal for the mine, and if so, what the coal cost per ton?

Capt. THOMAS replied that he had imported a cargo of coals. They were of very good quality, and cost 18*s.* 3*d.* per ton. He had asked the Pertreath Company at what price they could supply the same quality coal, and they had offered to do it at 18*s.* 6*d.* per ton. The Colliery Company allowed them 2½ per cent. discount.

Mr. A. RICHARDS explained, however, that the 2½ per cent. was upon the first cost of the coal, and that the actual discount allowed was only 1¼ per cent.

Mr. RULE: I have been told, Capt. Thomas, that the screw has been put upon the Colliery Company by the merchants, and that in consequence of this they will not supply you with any more coal. Do you know anything about it?

Capt. THOMAS: I do not know anything about the screw—but I have received a letter from the Main Colliery Company, stating that they cannot supply us with any more coal. I suppose the truth is that the merchants have agreed to take so many tons a year on condition that the Colliery Company will not supply anybody else.

Referring to a statement made a few days ago at West Basset that the dressing cost at Dolcoath was 8*s.* a ton, Capt. THOMAS said this was a mistake, as the cost was not more than half that amount.

The CHAIRMAN afterwards gave some interesting information with regard to the past and present position of the tin trade. He first mentioned that Dolcoath commenced paying dividends in 1853; since then 125 meetings had been held, and only once out of all that number had they failed to give a dividend. He then went on to say that during the year 1875 the quantity of Straits tin brought into the market was 11,000 tons, of Banca tin 7925 tons, and of Australian tin 7218 tons. During the same year the consumption had taken off about 32,500 tons—by far the largest amount ever reached. The United States had actually taken less by about 500 tons, whilst Germany and France had taken a great deal more. The increase of consumption occuring in a year when most other trades were stationary or retrogressive, was a subject for great congratulation, and as it appeared to be but the steady continuance of a national growth—the consumption having more than doubled within the last 20 years—it might fairly be hoped that further progress would be made in the same direction during the year upon which they had just entered. The exports of tin-plates too, had doubled during the last 12 years. It was estimated in 1856 that 7000 tons of tin were required in the manufacture of tin-plates, and at the same rate twice that quantity must now be wanted for the same purpose. These facts could not be regarded in any other than an encouraging light, and he hoped soon to see a decided rise in the standard.——A vote of thanks to the Chairman concluded the business.—*Western Daily Mercury.*

[For remainder of Meetings see to-day's Journal.]

MINING IN AUSTRALASIA—MONTHLY SUMMARY.

AUSTRALIAN EXHIBITS AT THE PHILADELPHIA CENTENNIAL EXHIBITION.

Late advices from Sydney state that the mineral trophy and geological collection prepared by the Department of Mines for the Philadelphia Exposition had been exhibited in the Temperance Hall preparatory to shipment, and was much admired. The collection which illustrates the illimitable mineral wealth of New South Wales has been brought together chiefly by Mr. Wilkinson, Government Geologist, assisted by the mining wardens, registrars, and other officers of the department, and supplemented by several valuable contributions from private individuals. The collection does great credit to the department, alike for its completeness and for its admirable arrangement, and the thanks of the public are especially due to the Hon. John Lucas, Minister for Mines, for the trouble he has taken in the matter. The trophy, which is a really magnificent one, is designed to show together the principal mineral resources of the colony—coal, gold, tin, iron, copper, &c.—giving due prominence to the coal, which is after all the very backbone of a country's mineral possessions, since it would be impossible without coal to work the others with profit. The trophy is of a pyramidal shape, with four salient angles and four corresponding recesses. The angles are formed by massive solid blocks of coal, disposed like steps, each block being the representative of a different seam or pit. One of these angles or buttresses represents the mines of the Hunter River district; the second those of the western district; the third is devoted to the Newcastle mines, and the fourth to the southern coal mines. In the recesses are shown sections taken from seams of coal now being worked in four of our principal coal fields, showing the actual thickness of these seams. Thus, the section from the Newcastle district is 12 ft. 6 in. thick, that from Bowenfels is 10 ft. 6 in. thick, that from Anvil Creek is 14 ft. 6 in. thick, and that from Bulli is 8 ft. without a band. On each side of the buttresses and over each section are placards showing the names of the collieries whence the samples exhibited were taken. In the open spaces at the base of each recess samples of all the mineral ores found in the colony are shown. One of these spaces is devoted to the exhibition of tin ores from various parts of the colony, but chiefly from the New England mines. Almost every variety of stream tin is shown, from the fineness of dust to the lumps of tin ore weighing 30 lbs., from J. H. Butchart's Deepsinkers' Mine, at the Gulph. There is a sample of that very rare kind known as the toadseye tin, from Grenfell. Several fine samples of tin-wash are also shown, in which the dirt is seen to be richly impregnated with the metal. In the same case there are also some good specimens of lode tin, amongst which may be especially noted the fine tin crystals from the Bolitho Tin Mine, Cope's Creek, of which there are two large blocks, showing the lode as it occurs in the granite. In addition to the tin ores there are ingots of tin, with samples of grain and bar tin, smelted from the New England ores.

In the next recess are iron ores from Nattai, Kiama Clarence district, Wallerawang, and Lithgow Valley. With the latter is shown a large bar of pig-iron—one of the first smelted by the Lithgow Valley Iron Company, whose furnaces are now in constant operation. The iron ores above mentioned consist principally of garnet rock, magnetic oxide of iron, stalactitic iron ore, and brown hæmatite. There are also shown in this compartment some beautiful quartz crystals, and specimens of asbestos.

A third recess serves for the exhibition of auriferous specimens, taken from some of the principal quartz reefs in the colony, and from some of the deep leads near Parkes and Forbes. With these there are shown specimens of silver, lead, and antimony ores. Amongst the latter is a large sample of sulphuret of antimony from Pyramul, which is said to yield 67 per cent. of antimony. Near these are some fine blocks of kerosene shale from Hartley, Berrima, and America Creek, near Wollongong.

The copper ores, which are shown in a fourth recess, include specimens from almost every part of the colony, but chiefly from the Bathurst, Wellington, and Peelwood districts. They comprise the yellow, grey, and peacock sulphides, native copper, red oxide, black oxide, and green and blue carbonates. Two large blocks of the latter are from South Wiseman's Creek, and were contributed by Capt. Armstrong, R.N. Some of the ores from Belara Mine are stated to yield an assay over 40 per cent. of copper. Several of the samples of carbonate of copper from the Wellington district are auriferous, the coarse specs of gold they contain being plainly visible. It should be mentioned that the trophy, which is entirely novel both in form and arrangement, was designed by Mr. Wilkinson, and constructed by that gentleman and his assistants.

There are also shown a number of specimens of the various geological formations of the colony, and a fine collection of the fossil flora and fauna of New South Wales. One case is devoted to samples of auriferous pyritous tailings, of which there are now thousands of tons lying waste on the gold fields. It is the intention of the Department of Mines to forward these samples to Philadelphia, with an analysis of the quantity of gold they contain, and an estimate of the total amount of tailings now available, in the hope that the inventive genius of our American cousins may devise some profitable means of causing these heaps of refuse to yield up the golden treasures they contain. In another case are shown some very fine samples of polished marble from Wallerawang, Cow Flat, and Marulan. It was from the two latter localities that the marble employed by Mr. John Young in flooring the great hall of the Sydney University was obtained.

The geological collection embraces some of the most characteristic fossils of the various formations from the Upper Silurian—the oldest rocks that we have—to the comparatively recent Devonian period. First, we have representatives of the characteristic fossils of these beds. These specimens show the blending of the fossils of the two formations, which makes the line of division so difficult to determine, as has been so clearly pointed out already by the eminent geologist, the Rev. W. B. Clarke. With the Devonian fossils we have here shown, for the first time, the Lepidodendron, associated with the Devonian Brachiopoda, thus showing the intimate connection between these beds and the carboniferous system. With these we have the fossil flora and fauna from the lower carboniferous beds, now being examined by the Department on the Australian Agricultural Company's property, near Stroud, in the Port Stephens district. Next in order we have the marine fossils from below the coal seams near Greta, and by the side of these are the marine fossils found at the Greta Mine, immediately overlying the coal seam, which contains Glossopteris, and other plants characteristic of the upper coal measures. The association of Glossopteris with these marine fossils proves the blending of the Palæozoic age with the coal measures. Amongst the fossils representing the upper coal measures of the Newcastle, Wollongong, and Bowenfels series are some magnificent specimens of Glossopteris, Vertebraria, Phyllotheca, Sphenopteris, and several other new fossil plants which have not yet been defined or determined. Next in ascending order we come to the Hawkesbury series, and these beds are represented by Phyllotheca and other plants, and a photograph of a magnificent specimen of fossil fish—the Cleithrolepis—found on the brow of a mountain, 3000 ft. above the level of the sea, by Mr. Thomas Brown, M.L.A. It may safely be said that the presence of fish at such an elevation proves that New South Wales has undergone some ups and downs, physically as well as politically, in the course of time. There is also some columnar sandstone from the same formation, and found near Botany Heads. The overlying Wiannamatta beds are represented by a photograph of Palæoniscus, a specimen obtained from the Gib tunnel, on the Southern Railway, by Mr. P. F. Adams, the Surveyor-General of the colony. The only specimen of supposed mesozoic coal strata is given by some fossil plants allied to Pecopteris (?), from the Clarence district. The lowest Tertiary strata are represented by some beautiful fossil leaves found near Gunning, in the south, and in the tin-bearing deep leads of New England, in the north—the deposits which will form the most permanent sources of tin production in this colony.

Next we come to some fine specimens of fossil leaves and petrified wood, from a depth of 175 ft. below the surface, from the deep gold leads in the district of Parkes. There are also some fossils of fruits from the same locality, identical with those found in the Upper Pliocene deep leads in Victoria. Amongst these may be mentioned the Pentenne Clarkei, named by savans in the old country after one of the most distinguished geologists in New South Wales, and the Rhytidocaryon Wilkinsenii, a new species, recently identified by Baron Von Mueller, the Government Botanist of Victoria, and named by him after the Government geologist of this colony. The fossils from the Pleistocene formation include the bones of some of those extinct and gigantic mammals, the diprotodon, the carniverous lion, the Tasmanian devil, and others, found on the western plains, and in the Wellington cave deposits. With these are the remains of existing marsupials, found in the bone caves near Mount Lambie. As uniting the past with the human period we have the native implements obtained by Mr. T. Brown, M.L.A., in the Capertree district, and some stone tomahawks found at Bodalla, by Mr. T. S. Mort, at a depth of 14 ft. below the surface. It was singular that the trunk of a large tree was found immediately above these latter specimens, leading to the inference that the weapons must have been deposited there at a very remote period, since the tree had grown and attained maturity after they were placed in that spot.

The old-established copper mines are continuing as productive as ever, and in the Burra an important discovery has been made of a fine lode of peacock ore at the depth of 78 fms. in sinking the main shaft. This is likely to result in a revival of the prestige of the grand old mine.—*South Australian Advertiser*, Jan. 1.

AUSTRALIAN MINES.

PORT PHILLIP AND COLONIAL (Gold).—Dec. 21: Quantity of gold crushed for the four weeks ending Dec. 1, 3282 tons; pyrites treated, 18¼ tons; total gold obtained, 871 tons 1 dwt., or an average per ton of 5 dwts. 7 grs. Receipts, 3559*l.* 14s. 6d.; payments (including 925*l.* 4s. 9d. paid for firewood and mine timber, 3412*l.* 4s. 10d.; profit, 147*l.* 9s. 1d., which added to last month's balance of 159*l.* 7s. 2d. made an available balance of 1740*l.* 16s. 10d. The amount divided between the two companies was 1000*l.*, the Port Phillip Company's proportion of which was 650*l.* The balance of 740*l.* 16s. 10d. was carried forward to next month's account. Remittance, 650*l.*

ANGLO-AUSTRALIAN (Gold).—Capt. Raisbeck (Dec. 28) writes: Prospecting Shaft: We have driven western drive on cross lode 25 ft., and have broken and crushed 22 tons of stone; result 3 ozs. 6 dwts. of retorted gold. We have broken from the eastern stopes 80 tons of stone; result, 15 ozs. of retorted gold, and have taken 4 ozs. 14 dwts. from the plates: total 23 ozs. for the month. The stone is small, and not looking so well. On the 11th instant we let on tribute to four men a portion of ground in the western shaft 90 ft. from surface, the tributers to give the company 50 per cent. upon all gold obtained, the company to haul, crush, and find timber. They have 30 tons in the mill which is not yet cleaned up. We have crushed for the public during the month 17 tons of quartz.

AUSTRALIAN CENTRAL (Gold).—Mr. Gill (Dec. 28) writes: Alluding to paragraph 2 in your letter in reference to unnecessary expenditure for dead work, you may rest perfectly assured that nothing more will or can be done but what is absolutely necessary, for the time being, for the proper carrying on of the work in hand, the finances of the company not permitting of any speculative outlay. I will endeavour to have a plan prepared in time for next mail, if I find it will be safe to re-open the ground now silted up by these bursts of sand and water, otherwise it will be scarcely worth while going to the expense at present, as all our operations from the No. 2 jump up shaft are confined to a very limited space, and will be for some time to come. Not having received a reply to my telegram of Nov. 30 (the directors, on Dec. 24, remitted Mr. Gill 200*l.* by telegram), I must conclude you are powerless to assist me. My financial position is even worse than I had anticipated, as I have been obliged to apply the balance I had in hand last month to keep the mine together, instead of meeting the various amounts due at the time, and which I am now staving off from week to week as best I can. My unfortunate position is entirely attributable to these continued bursts. A few days after I sent the last telegram we experienced another burst, and nothing could be done but to again withdraw the men from No. 1 jump up, breast up the ground, and leave it for the present. Fortunately the ground I am now working from No. 2 jump up shaft is not affected by these floodings, and as it is very good in places, there is a possibility of my being able to carry on. Should the gold continue as it has dine for the past five days (nearly 5 ozs. per diem for 18 men's work, mostly engaged in putting in main levels, semi-dead work), I shall be able to meet current expenses, with some to spare; but, under any circumstances, as soon as the opening up of the ground will permit, I shall endeavour to make arrangements for a semi tribute with the miners, so that the company may be relieved of the responsibility of such heavy pay sheets. It is the only plan I can adopt under present conditions. If I am compelled from any cause whatever to stop, being without funds, that stoppage must be final, as there would be no means to continue the drainage of the mine till I can communicate with you, or till some fresh arrangements could be made, consequently the property must be sacrificed. It is by no means improbable that any day may find us in rich ground, an event by no means improbable in working our western tributaries. My present position is a dangerous one. We are opening up really good ground, but the smallest *temps* occurring which will prevent my obtaining sufficient gold to meet expenses will necessitate my stopping. Capt. Anguin's report will give you all available information as to the mine. I sincerely trust I shall yet conquer my difficulties, but I must confess that the cumulation of disasters has almost disheartened me. Capt. Anguin (Dec. 28) reports: During the past four weeks we have driven main drive 120 feet through good wash-dirt 3 ft. thick with coarse gold, but owing to the continued burst of water and sand we have not been in a position to put in blocking drives as yet. These bursts of water and sand have hindered us considerably, to heavy cost, together with the extra consumption of firewood, cannot have cost the company less than 500*l.* I am glad to state that both water and sand have now fallen off considerably, and we shall shortly commence to put in blocking drives when I have no doubt the yield of gold will be very satisfactory, as the ground driven through, particularly the last week, has been very good.

Copy of telegram from Mr. Gill, dated Melbourne, Feb. 10:—Impossible to continue without funds. Ground good, but large amount dead work. Opening out.

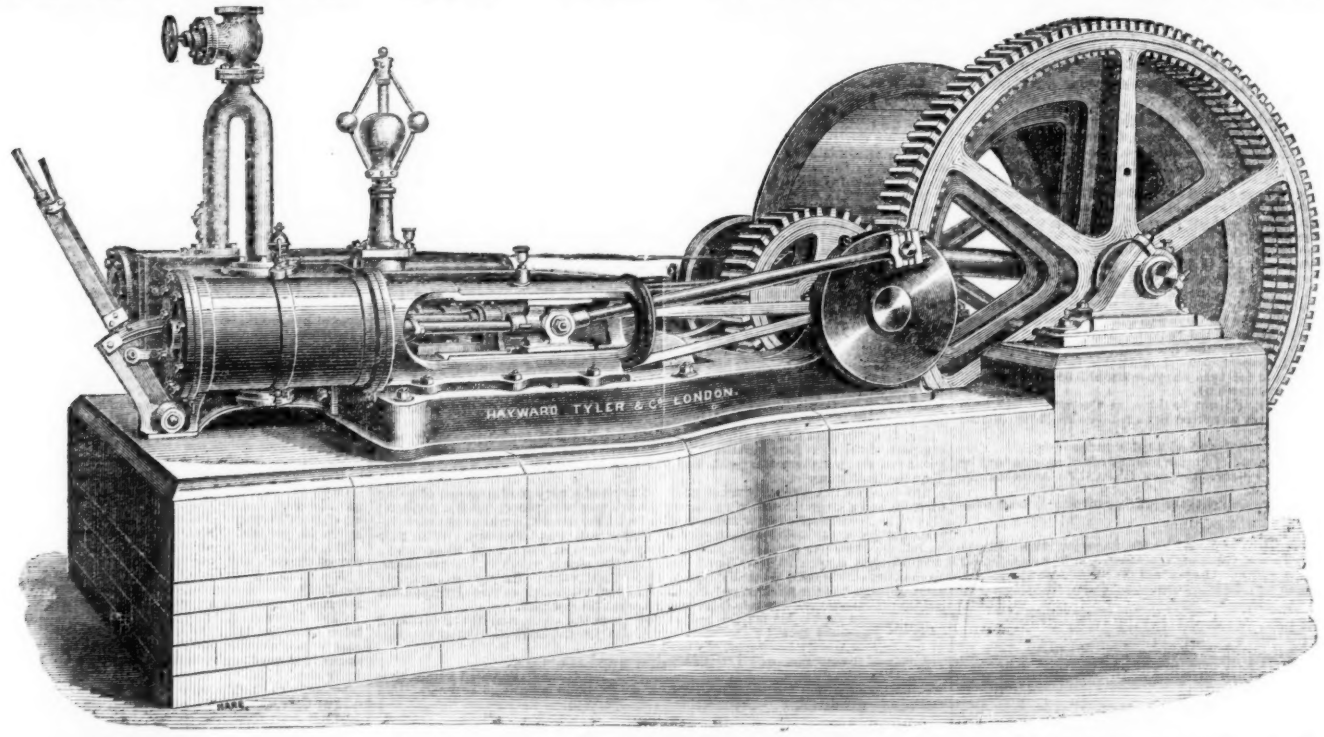
ENGLISH AND AUSTRALIAN (Copper).—Port Adelaide, Jan. 1: At Port Adelaide there were eight furnaces and one refinery at work, and at Newcastle seven furnaces, one calciner, and one refinery. The stock of coal at Port Adelaide was 3700 tons. Since date of last advices 198 tons of copper had been shipped, and 124 tons were in course of shipment.

SCOTTISH AUSTRALIAN.—The directors have advices from Sydney, dated Dec. 24, with reports from the Lambton Colliery to the 23d of that month. The sales of coal for the month of November amounted to 13,203 tons.

YORKE PENINSULA.—The directors have advices from the committee of inspection, at Adelaide, dated Dec. 29, with reports from the Kurilla Mine to the 27th. Capt. Anthony reports—The 35, east of Hall's shaft (Kurilla lode), is driving by four men. Until the last few days there has been a branch of mundic on the north side of the lode, but it is cut out, and some good ore is now occurring on the south side of the lode. A good patch of ore ground of 3 fathoms long has been passed through that will be worked on tribute as soon as the hauling shaft is down to this level. This corresponds to some ore passed through at the 25 before reaching the main shoot. A change similar to the present also took place at the 25. I am, therefore, expecting soon to meet with the main shoot at this drive. The 25 is driving by four men, at 7*l.* 10s. per fathom. . . . This drive has opened out some good tribute ground, which will shortly be ready for stoping. . . . I have commenced to sink a winze from the 15 between the hauling and B shaft to ventilate and stope the back of the 25 fm. level; the lode is 1 ft. wide or (say) 2 tons of 20 per cent. ore per fathom. Four men are working the back of the 15 fathom level, east and west of B shaft, at 8s. in 1*l.*, and doing well, but all the other pitches on this lode are idle for the time, although, I suppose, they will be set again shortly. . . . I have bored 2 fathoms in the end of the cross-cut south from Kurilla to Anthony's lode, all through the vein and containing iron, quartz, felspar, pyrites, and ore; this point must not be lost sight of, but be pushed again by-and-bye, as Anthony's lode here is very broad and strong. . . . I have deepened No. 5 shaft on Morphett's lode over 14 fms. At 13 fms. a little water was met with, which, as the shaft was deepened, increased to such an extent as to render sinking without pumps impracticable. . . . The 10 west is now holed to that shaft. . . . In the shaft the water and ore will come upon simultaneously, so that we have found the ore on this lode at a point 65 fms. west of where it was first discovered near the eastern boundary. In the eastern part yellow ore is being raised following immediately the green and grey ore. At No. 5 shaft, however, the ore is found at the water line directly below where the lode yielded no ore in the upper ground. It is reasonable, therefore, to expect a run of ore ground for the whole 65 fms., to say nothing of its continuance westward. Besides the 215 tons of ore, of the value of 1200*l.*, already sold and on the floor from this lode, two men are working the bottom of the 10 at 8s., two at 6*l.* 6*l.*, and two in the back at 6s. in 1*l.* The total expenditure, roughly calculated, on tutwork and tribute operations on this lode is less than 800*l.*, so that five winzes, shafts and an "attle" pass have been sunk, making an aggregate of 67 fathoms and 65 fms. of levels driven—or, in all (say), 130 fms. odd, and the ore already raised has met all of the expense, and left about 400*l.*, or one-third, to the good. To place the merits of this lode in a fair light, I beg to assure the committee that were it discovered in a property such as the Moonta or Wallaroo Mine, no expense would have stood in the way of its rapid development. An engine would have been erected on it in six months after its discovery. So important is it that this lode should be speedily explored, that were the property my own I should feel justified in erecting the new engine on it instead of at Grainger's shaft, and let the western ground, on the Kurilla lode, stand over a few months. In this suggestion I hazard nothing, as subsequent changes have shown the superior immediate claims of this portion of the property, while not in any way affecting the value of Grainger's shaft and its surroundings. Apart from Anthony's lode, which, prospectively, is of great value, we have now likewise to deal with three points which are very important.—1. The run of ore to the east of Hall's shaft.—2. The western ground at Grainger's shaft.—3. Morphett's lode, which independently of the other points, is a mine of itself, and should and would command a liberal outlay to put down shafts and erect suitable machinery. So far I cannot be regarded as a speculation in the ordinary acceptation of the word applied to mining, the ore raised having met every expense of exploration, and left a more than fair proportion of profit. . . . The ore, 6) tons of which you have received accounts sales since my last, realised very satisfactory prices, bringing net, 6*l.* 4*l.* Subsequently, tenders have been invited for about 40 to 45 tons, until samples are taken. I daresay the average will be about 16 per cent., or above. I have on hand about 50 tons to 20 per cent. ore raised by tributers.

SHEATHING IRON SHIPS.—The object of the invention of Mr. M. MUNTZ, of West Bromwich, is to obtain perfect isolation between the iron of a ship and the copper or sheating metal, and thereby to prevent galvanic action. In order to prevent metallic continuity being established between the sheathing and the iron by means of the screw bolts and nuts by which the wood covering is attached to the iron, the holes in the iron through which the bolts pass are lined with wood or other non-conductor of voltaic electricity, and a washer of non-conducting material is placed under each screw nut. Or the depressions in the wood covering in which the heads of the screw bolts are embedded are made so deep that the nuts or heads are below the level of the wood, and the sheathing does not come in contact with the heads of the bolts. Discs of wood are placed over the bolt heads in the cavities in the wood, and fill the space between the head of the bolt and the sheathing metal with a non-conductor of voltaic electricity.

HAYWARD TYLER AND CO.'S IMPROVED WINDING-ENGINE.



HAYWARD TYLER AND CO.'S IMPROVED WINDING-ENGINE.

One of the most important considerations for a colliery owner is how he may best get his minerals to bank. This operation is now very generally effected by means of winding steam-engines, and the consideration, therefore, of the best and cheapest form of such engines is of the greatest consequence. We illustrate this week a first-rate pair of winding-engines, made by the well-known firm of mining machinery engineers—Messrs. Hayward Tyler and Co., of Upper Whitecross-street, London.

The horizontal form of winding-engines adopted by this firm is now obtaining much attention and support from colliery and mine owners, in preference to the older-fashioned vertical winding-engines. The horizontal arrangement allows of the whole engine and drum being securely bolted down to a strong masonry foundation, whereas the strain upon the drum of a vertical engine, with all the vibration from the engines, must be taken by the vertical wall of the engine-house.

The arrangement is also made specially strong and compact by both engines being bolted to bed-plates, which are again mutually bolted together so as to virtually form one solid rigid bed-plate. This ensures the accurate fixing and spacing of the double engines one to another, which must in the case of separate engines depend entirely upon the accuracy of adjustment of foundations. As, also, all foundations are apt to settle after fixing, the engine bearings on the distinct engines can hardly be relied on for continued accuracy of adjustment, even if originally truly fixed. We cannot, therefore, too strongly advocate this arrangement of united bed-plates, so as to induce original accuracy of fixing and continued after rigidity, preventing the possibility of after derangement of bearings.

The engines are fitted with the usual reversing gear—back and forward eccentrics working on to a slotted link, which is brought into its respective positions by a reversing lever and notched rack.

A special novelty, which we have never before seen applied to winding-engines, consists in the application to this pair of engines of Messrs. Hayward Tyler and Co.'s variable automatic expansion gear (Rider's patent). In all cases of winding-engines the load upon the engine at starting—due both to the inertia of the load and heavy length of chain or rope out—is very much greater than [illegible] speed has been got up in the middle and end of the haul. It [illegible] this unavoidable variation of the load that Messrs. Hayward Tyler and Co.'s variable automatic expansion valve effects such great economy. In an ordinary case, the engine must at starting be allowed full boiler pressure, with no cut off for the whole of the stroke, and any after reduction of work must be effected by the attention of the driver being given to the throttling of the steam by a valve, or notching up the reversing lever. The economy of true expansion cannot be effected in this way, and the attention of the driver diverted from the position of the kibble in the shaft. By the automatic arrangement of variable expansion the steam is used in the most economical manner, without any attention whatever from the driver. The successful application of this variable automatic expansion to horizontal engines is now well known by its economical results, and Messrs. Hayward Tyler and Co.'s application of this to winding-engines has, we understand, met with the most encouraging appreciation from the purchasers.

PATENT IMPROVED ORE WASHING & DRESSING MACHINES.

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LATE THE MOLD FOUNDRY CO. (ESTABLISHED 1838).

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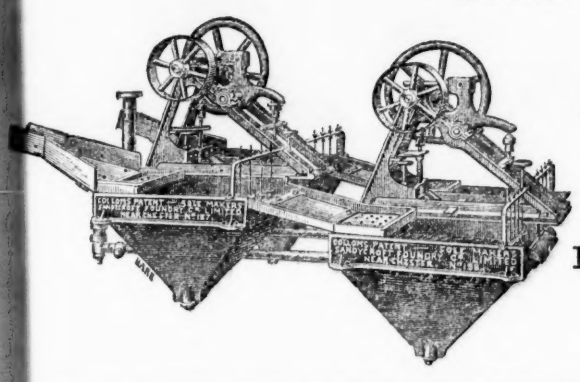

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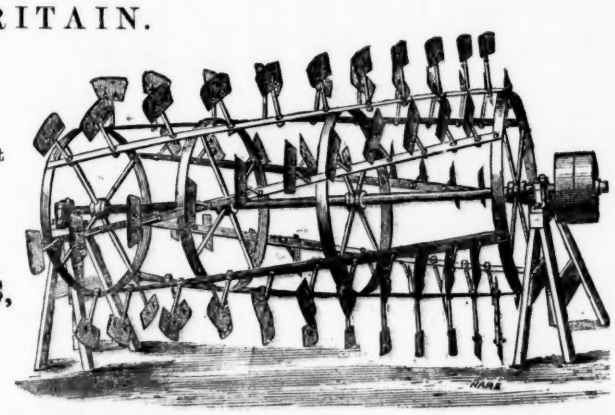


COLLOM'S PATENT AUTOMATIC ORE WASHING MACHINE, working at the following and many other Lead, Copper, Blende, and Tin Mines:—Great Laxey, Cape Copper, Pontgibaud, Linares, Alamillos, West Tolgus, Lisburne, Minera Halvans, Snailbeach, &c.; and also at Messrs. Vivian and Sons' Works, Swansea.

PATENT IMPELLER, OR KNIFE BUDDLE, in use at the following and many other Lead, Copper, Blende, and Tin Mines:—The Van, Roman Gravels, Tankerville, Ladywell, Lisburne, East Black Craig, Old Treburgett, Penhale & Barton, Bog, Linares, Fortuna, Alamillos, Minera Halvans &c.

LONDON OFFICE: 6, QUEEN STREET PLACE, E.C.

The "Burleigh" Rock Boring Company, Limited,

100, KING STREET, MANCHESTER;

AND 96, NEWGATE STREET, LONDON.

CAUTION.—It having come to the knowledge of the Directors of this Company that certain unscrupulous persons are offering for Sale Rock Boring Machines as improvements on the "Burleigh" invention, and which Machines are Infringements of this Company's Patents, Notice is hereby given to intending Purchasers and Users that this Company will proceed at law against all Infringers of their Patent Rights, whether Makers, Vendors, or Users.

This Company Sell or Let out on Hire their **ROCK BORING MACHINERY**, or they Contract for the Execution of Rock Excavations, such as Shafts and Tunnels, by the aid of the "Burleigh" Rock Boring Machinery.

RICHARD MOTTRAM, Secretary.

EXTRACTS FROM RECENT TESTIMONIALS.

JOHN ROBINSON, Talysarn, near Carnarvon.

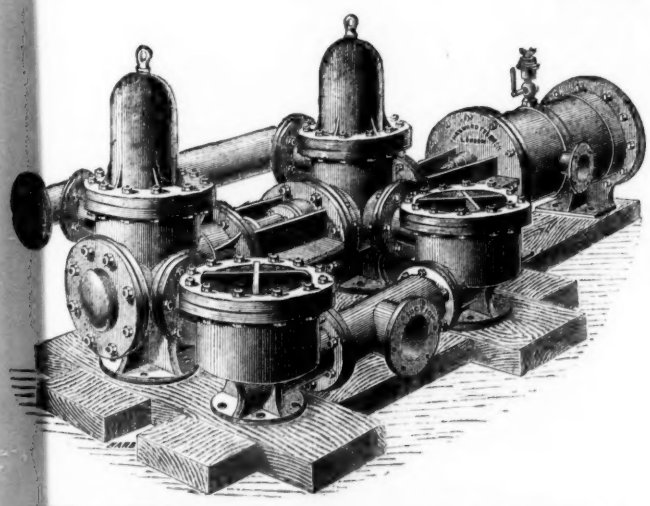
"The 'Burleigh' Rock Drills are working very satisfactorily, and I purpose adopting them throughout all my quarries."

A. D. URBAN, Managing Director of the Societie Anonyme of the Porphyry Quarries of Quenast.

"The 'Burleigh' Rock Drills have been in active operation for three years in these quarries, and the results obtained by their employment have been of the most satisfactory character, and they are superior to all others."

PATENT "UNIVERSAL" STEAM PUMP.

PRIZE MEDALS.



Royal Cornwall Polytechnic	1872.
Vienna Exhibition	1873.
Lille Comice Agricole	1874.
Lille " " "	1875.
Manchester Pomona	1874.
Cologne Horticultural	1875.
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SOLE MAKERS:

HAYWARD TYLER & CO., Engineers, Whitecross-st., London.

Coal-Getting by Patent Hand-Worked Machinery,

WITHOUT THE USE OF GUNPOWDER.

No. 1 MACHINE - THE HAND COAL-CUTTER, for under-cutting.
2 " - THE ROCK & COAL PERFORATOR, for drilling.
3 " - THE SCREW WEDGE, for breaking down.

The use of these Machines, while doing away with the greatest source of danger, economises at least Fifty per cent. of the labour required in Getting Coal.

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CAST STEEL for PUNCHES, TAPS, and DIES
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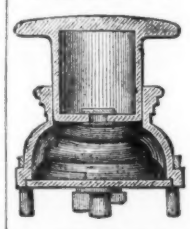
CAST STEEL PISTON RODS, CRANK PINS, CONNECTING RODS, STRAIGHT and CRANK AXLES, SHAFTS and
FORGINGS of EVERY DESCRIPTION.



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EXTENSIVELY USED BY MINE OWNERS, &c.

OVER 1150 NOW IN USE.

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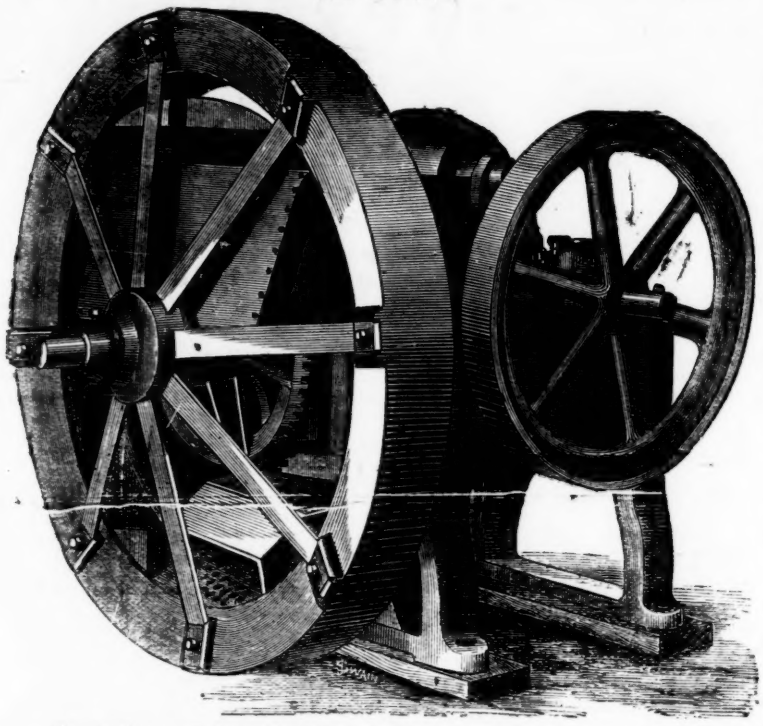
Great Improvements in Mining Machinery by the use of H. R. M's NEW RAFF-WHEEL MACHIN

WITH NEW PATENT CRUSHING JAWS,

BY WHICH ORES OF EVERY DESCRIPTION CAN BE REDUCED TO FINE POWDER.

New Raff Wheel Machine, fitted with H.R.M.'s Special Jaws for Crushing Stone, &c. to Fine Powder.



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Machines fitted with H. R. M.'s renowned PATENT CUBING JAWS, by which stone is broken equal to hand at ONE-TENTH THE COST.

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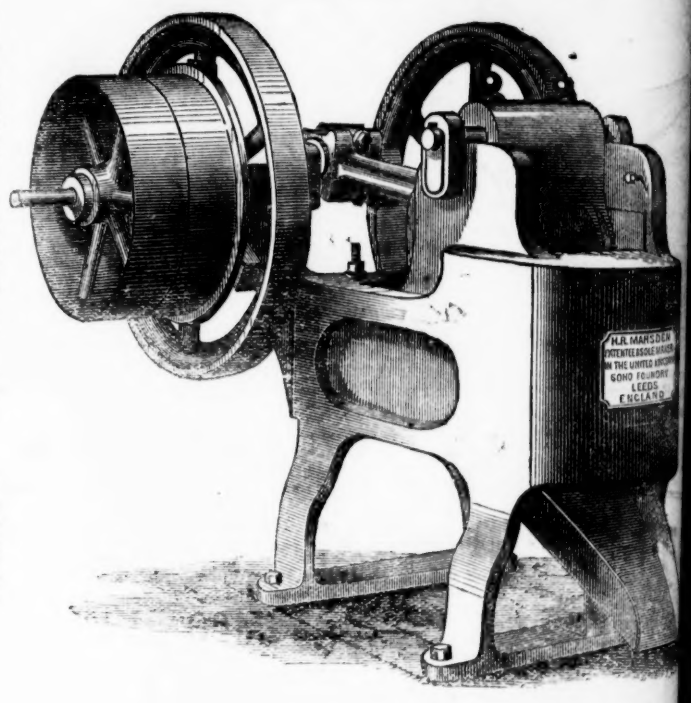

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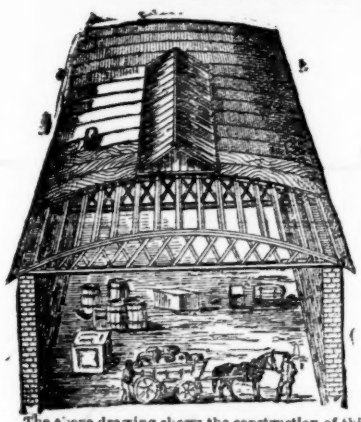

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DRIVING BED ROCK TUNNELS, SINKING SHAFTS, AND PERFORMING OPEN FIELD OPERATIONS,

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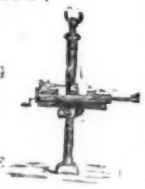

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By a special method of preparation, this leather is made solid, perfectly close in texture, and impermeable to water; it has, therefore, all the qualifications essential for pump buckets, and is the most durable material of which they can be made It may be had of all dealers in leather, and of—

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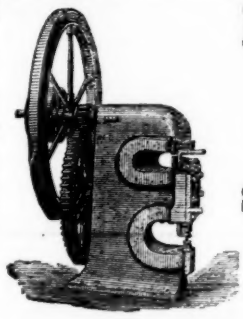

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Self-acting, Slide, and Screw-cutting Lathes;

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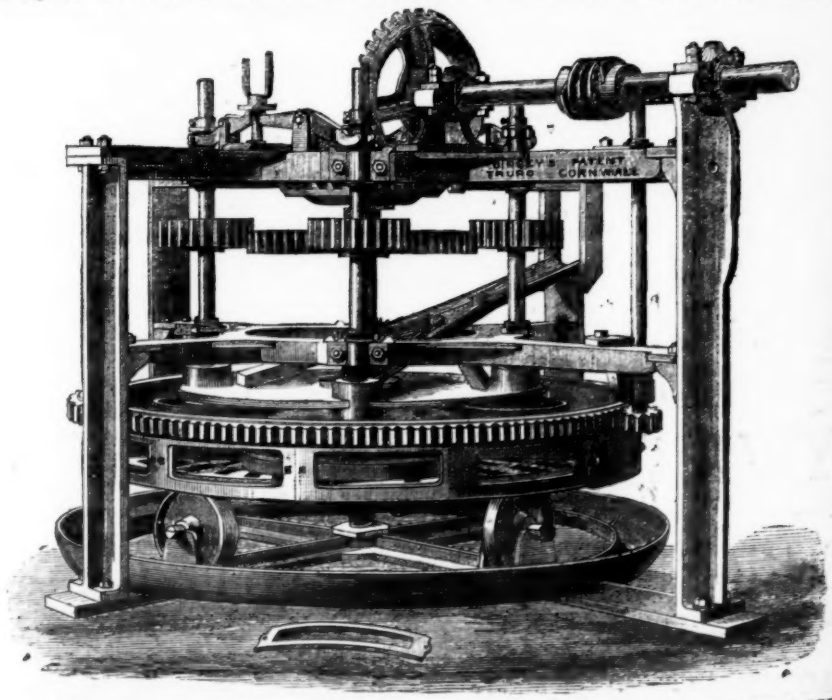
Special Premium of £20, offered conjointly by the Editor of "Mining Journal" and the Royal Cornwall Polytechnic Society for the Best Invention for Dressing Ores, awarded 1872.



This Machine is specially adapted for GRINDING TIN ROWS, LEAD SKIMPINGS, GOLD and SILVER ORES, &c. CLASS MINERAL ORES can be treated by this Machine that would not pay by any other treatment.

This Pulveriser is working at Carn Brea, Tincroft, Wheal Jane, Frank Mills (Lead), and various other Mines.

TESTIMONIALS.

From Capt. WM. TEAGUE, Jan. 31, 1876, Manager of Tincroft Mines, Redruth.

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From Capt. JOHN NICHOLLS, Frank Mills (Lead) Mine, Christow, near Exeter, Jan. 4, 1876.

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Printed by RICHARD MIDDLETON, and published by HENRY ENGLISH (the proprietors) at their offices, 26, FLEET STREET, E.C. where all communications are requested to be addressed.—February 19, 1876.